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THE MONTH.

The results of the B. A. Examination this year are as follows—the table also giving the figures for some years back:—

	1871	1872	1873	1874	1875	1876	1877	1878
Elphinstone College	5	9	14	15	10	27	21	30
Deccan College.....	6	10	8	12	4	7	9	8
St. Xavier's	3	2	1	2	3	2	...	2
Free Gen. As. Inst.	...	1	...	1	1	3	...	2
	14	22	23	30	18	39	30	42

The large number of passes from the Elphinstone College is noticeable. The Ellis Prize and the Duke of Edinburgh Fellowship were both awarded to Mr. Henry Frank Shanahan, a highly distinguished student of St. Xavier's College. The James Taylor and Bhau Daji Prizes fell to students of Elphinstone College.

The two great Matriculation honours fell this year, the Cowasji Jehangir Latin Scholarship to a pupil of the Bishop's High School, Poona, and the two Jagganath Sunkershet Sanskrit Scholarships, one each to the Ratnagiri and Poona High Schools.

The following appears in the *Government Gazette*:—It is hereby notified, that in future none but matriculated students will be admitted to the higher divisions of the Poona Civil Engineering College. The second department of that college is abolished, and the test qualifying for overseerships in the Public Works Department will, after the 1st April 1881, be the first examination in civil engineering of the University of Bombay. The three appointments

as third-grade overseers, now guaranteed to the second department will, from the 1st April 1881, be given to the first three licentiates in civil engineering, in order of merit, who are willing to accept them.

SANSKRIT is in future to be accepted instead of Greek for the Previous Examination at Cambridge, in the case of undergraduates from Eastern countries. These have hitherto lost much time in learning Greek after coming to Cambridge, and so have hindered their university course only to acquire the rudiments of a language far less useful to them subsequently than Sanskrit.

PROFESSOR MONIER WILLIAMS reports that he has already received 12,000*l.* towards the establishment at Oxford of his proposed Indian Institute, and that steps will be immediately taken to commence the work.

THE *Academy* announces that the editor of the "Shaddarsana Chintanika," or "Studies in Indian Philosophy," has in the press an English poem, the "Rishi," describing the sentiments, aspirations, and the mode of life of the ancient Indian sages as based on the hymns of the Rig-Veda. The poem is dedicated to Prof. Max Müller.

It is well known that there is no literary property equal in point of profit to a good school book. In a recent case, that of *Asmer and Mathews v. Stewart and Co.* before the Master of the Rolls, a motion was made for an injunction to restrain the defendants' firm from infringing the copyright and using the stereotype plates of a book entitled "Deductions from Euclid, and How to Work Them," the sole property of the plaintiffs. Mr. Bhagshawe, Q.C., and Mr. Speed appeared in support of the motion, and Mr. Chitty, Q.C., with Mr. Grosvenor Woods, were for the defendants. His lordship, after hearing the facts, decided against the defendants on all points, and granted the injunction applied for on the usual terms.

THERE is talk in England of another Education Act likely to be soon introduced, the objects of which will be to make compulsion universal, and to greatly simplify the working of the existing act.

MR. DE HASS, American Consul at Alexandria, has recently made the *tour du monde* in 63 days. Starting from Alexandria, he

reached New York, *viâ* Brindisi, Paris, London, and Liverpool, in 20 days. From New York to San Francisco, Yokohama, and Hongkong occupied the same period; ten days were taken up in the voyage to Ceylon, and twelve days in the voyage from Galle to Suez, whence a journey of a few hours was sufficient to complete the circle to Alexandria.

An American lecturer, speaking of the prevalence of short-sightedness among the younger generation, says, referring to Boston (U.S.) :—"The old people have all the good eyes. All the older musicians, scholars, authors, composers, whose names have made Boston famous in the world of letters and art, appear to have excellent eyes, and get along on the street, and in the library without the use of glasses. On the other hand, the younger class of litterateurs and students are unanimously short-sighted." A very American use of the word "unanimously."

THE AMERICAN BUREAU OF EDUCATION AND THE LONDON SCHOOL BOARD.

It is the custom of the Bureau of Education in the Department of the Interior at Washington (U.S.) to issue "Circulars of Information" in connection with National Education. These publications are so far in the nature of English Blue Books that they are official, and issued by a Government Department, but they differ from any familiar form of English Blue Books in this respect: that they are not reports of official work or of the inquiries of Government committees; they simply contain information useful to those engaged in the work and the discussion of national education, collected from any sources, at the discretion of the official editor. The latest of these circulars is called "No. 2 of 1878," and its special subject is "Elementary Education in London." Substantially the circular is a reprint of the address of Sir Charles Reed, as chairman of the School Board for London, delivered at the first meeting of the Board after the late summer recess, on the 2nd of October. The reprint is, however, accompanied by a letter from the Commissioner of the Bureau to the Secretary of the Interior, and by an official bureau report and explanatory summary of the working of the Education Acts in England. The summary may be as stimulating to us in India as it is evidently regarded in America. The following is the letter :—

"Department of the Interior, Bureau of Education,
"Washington, D. C, October 30, 1878.

"Sir,—It is well known that when the Education Act of 1870

was adopted by the British Parliament, many entertained serious fears with regard to its execution in London.

"England up to that date, in the great metropolis as elsewhere, had relied upon the schools of the Church for the sufficient education of the young, or on endowed schools and other voluntary educational agencies; these being supplemented or aided by grants from the public purse.

"Charities in the metropolis were so numerous that the mere catalogue of them alone made a book of 200 pages; a great many of these charities were devoted to the care or education of the young.

"Notwithstanding these numerous and very creditable endeavours a great increase of those evils specially traceable to the neglect of education was remarked.

"The results of the introduction and administration of the law above mentioned are now manifest for the examination of scholars and statesmen. They may be studied in detail in the voluminous reports of the proceedings of the London School Board, the sixth volume of which fills 2,200 imperial octavo pages. But Sir Charles Reed, chairman of the London Board, recently summarised the facts noted in this great educational experiment in the world's largest city so briefly, and in language so simple, as to make his statement of peculiar value to the numerous members of municipal School Boards in this country. The lessons his words contain are specially pertinent at this time, when efforts are being made in various places to lower our educational methods and plans to the condition in which the London School Board found those of that city when it undertook its great responsibilities.

"I therefore submit this address, with a few explanatory notes, for publication.

"I have the honour to be, very respectfully, your obedient servant,

"JOHN EATON, Commissioner.

"Hon. C. Schurz, Secretary of the Interior."

The following is the official introduction to Sir Charles Reed's speech:—

Elementary Education in London.—The last seven years have witnessed a wonderful change in the educational affairs of Great Britain, especially of London and the other large cities. During this time the great metropolis has placed public education on a firm and substantial foundation. Of all the School Boards created under the Education Act of 1870, that of London had the heaviest task imposed upon it, and it is one of those which have accomplished the most. Nothing can be clearer or more forcible than the plain statement of facts and figures presented in the interesting annual address of Sir Charles Reed, the indefatigable president of the London School Board. There are already 278 Board schools in London, with accommodation for 192,000 children, and when the present plans are completed there will be accommodation in Board schools for 240,000 children. It is due to the energetic efforts of the School Board, that London

is able to report in the year 1878, an average daily attendance in all efficient elementary schools of 339,344 pupils, against 174,301 in 1871, a growth of 94·6 per cent. This favourable result in so short a period suggests inquiry into the organisation of the School Board, its powers, and its plan of operation.

The basis of the present system is the Elementary Education Act of 1870, which says that "there shall be provided for every school district a sufficient amount of accommodation in public elementary schools available for all the children resident in such district, for whose elementary education efficient and suitable provision is not otherwise made." The new schools are placed in each district under School Boards invested with great powers—among others, that of compelling all parents to give their children, between the ages of five and thirteen, the advantages of an elementary education.

In pursuance of this Act the first School Board for London was elected November 29, 1870. It contained many eminent members, among them Professor Huxley. The number of school districts is ten, which are represented in the Board by forty-nine members (a few of the members are women), elected every three years by ballot as required by law. The first chairman of the Board was elected December 15, 1870. On December 19 of the same year the Education Department directed the Board to procure returns of all the elementary schools within the district of the metropolis. These returns were forwarded to the Department within four months. On April 20, 1871, the Board received instructions to report on the number of children within the limits of its jurisdiction, for whom elementary education should be provided. As the general census of the United Kingdom had just been taken, it was easy to determine the absolute number of children between the ages of three and thirteen. But a more difficult problem was presented as soon as it became necessary to ascertain the number of children contemplated in the Act. A staff of enumerators and a superintendent were appointed in each of the ten divisions of the metropolis. As a general rule the enumerators made their inquiries verbally as they called from house to house. The work of tabulation was at once proceeded with. The Board sub-divided the different school divisions into compact blocks. Each of the divisional committees was then requested to sub-divide its division in accordance with a regular plan, and the result of this is shown in the much admired maps published by the Board. The streets and alleys within a given sub-division were now arranged in due order, and the exact number of families noted. The children were then divided into those who attend and those who should attend, and the causes of absence were carefully ascertained.

The following is the result of this gigantic work: The population of London, April 2, 1871, according to the School Board enumeration, was 3,265,995. The number of children between three and thirteen was 681,101, of whom 97,397 were educated at home or in

schools, and 9,101 were inmates of various institutions. The number of children requiring elementary schools was 574,693, of whom 398,679 were attending, and 176,014 for various causes were not attending school.

The first duty of the Board was now to provide suitable school accommodation for the vast number of children outside of school. How successfully this has been done will be seen in the statement of Sir Charles Reed, herewith presented. The internal organisation of the Board schools has improved steadily and systematically from year to year. The Board has availed itself of the power given it in Section 74 of the Education Act, which says that any School Board may require "the parents of children of such age, not less than five years nor more than thirteen years, as may be fixed by the bye-laws, to cause such children (unless there is some reasonable excuse) to attend school," and may "impose penalties for the breach of any bye-laws." The text of the bye-laws relating to compulsory attendance in London Board schools is as follows:—

"§ 2. The parent of every child of not less than five years nor more than thirteen years of age, is required to cause such child to attend school, unless there be some reasonable excuse for non-attendance.

"§ 3. Except as hereinafter provided, the time such child is required to attend school is the whole time for which the school selected shall be opened for the instruction of children, not being less than twenty-five hours a week. * * *

"§ 7. Every parent who shall not observe, or shall neglect, or violate these bye-laws shall, upon conviction, be liable to a penalty not exceeding 5s., including costs, for each offence."

According to the reports, the above provisions in regard to compulsion are rigorously enforced. Sir Charles Reed says: "Without this agency [compulsion] we should lose all trace of thousands of the very children it is our duty to gather into school."

The London School Board divides the subjects of instruction into "essential" and "discretionary." The former for junior and senior schools, are the Bible and the principles of religion and morality,† reading, writing, and arithmetic, English grammar and composition, and the principles of book-keeping in senior schools, with mensuration in senior boys' schools; systematised object lessons, embracing elementary instruction in physical science, history of England, elementary geography, elementary social economy, elementary drawing, music and drill. In girls' schools, plain needlework and cutting out are added. The discretionary branches are domestic economy, algebra, and geometry.

For infant schools, instruction must be given in the Bible and the

† This religious instruction, however, is to be given either before or after (or before and after) the regular session of the school, and any child may be withdrawn during its continuance; if withdrawn, the child must receive instruction in secular subjects during that time.

principles of religion and morality, reading, writing, and arithmetic, object lessons of a simple character, singing, physical exercises, and sewing.

One or more mistresses in every girls' school must be competent to teach cookery. The School Management Committee says in regard to this instruction :—

"The number of pupils in the different cookery classes, March 25, 1878, was as follows :—

Sleaford-street centre	46
Chalton-street centre	50
Blackheath-road centre	52
Cambridge-heath-road centre	63
Total	201

"A great number of applicants had to be refused on account of want of space. The teachers' interest in cookery has steadily increased, and many of them have expressed a great wish to teach it in their schools."

In every department of a school there must be at least one teacher with a full drawing certificate. Two hours a week in all boys' schools, and one and a half hours a week in every girls' school, must be devoted to drawing. Drill is taught in every school during the regular school hours, and it is expected that every head teacher will be competent to give this instruction.

The London School Board regards with great favour the effort to make swimming lessons a part of the course of physical training in the schools under its control. The many recent accidents on water have given a new impetus to this important movement. Hitherto the London Swimming Club has taught the art to a large number of children of the Board schools. The number of pupils and teachers who have already learnt to swim is 7,577.

The Board has greatly stimulated a spirit of temperance and thrift among the children, by furnishing lectures on this subject, and by giving facility for the deposit of money with the National Penny Savings Bank. The number of depositors in 1877 was 9,901, and the amount deposited by forty schools was 3,112*l.* 1*s.* 10*d.*

The Board also takes care of the deaf, mute, and blind children within its jurisdiction. The number of institutions for these unfortunates is five, and the number of inmates 134.

THE TEACHING OF ENGLISH LITERATURE IN SCHOOLS.

(*Concluded from page* 280.)

I have, I fear, taken up too much of your time in discussing the deficiencies of preparatory schools and the elementary stages of English teaching. My excuse for so doing must be my desire to lay the axe at the root of the evil, and my conviction that the first

steps are the hardest. If my own experience has not been singularly unfortunate, it is a fact that the boys who enter our public schools know no English. They can say their Latin and Greek declensions; they know by heart a certain number of syntax rules in Latin, which they cannot construe, much less understand; some of them can compose Latin verses, but they cannot write a simple English sentence, and they have never so much as heard of DeFoe, or Goldsmith, or Scott. And when they enter school their case is not much better. The time given to English literature varies, I believe, from an hour a week to nothing. In German schools six to eight hours are given to the mother-tongue, and that is none too much.

Passing over the intermediate stages, I propose to devote the time that remains to the consideration of a lesson in English literature with the highest form.

I feel, however, considerable diffidence, not from want of definite views (whether right or wrong), but from the difficulty of enunciating these views definitely. On consideration, it occurred to me that I could best express myself by giving an outline of such a lesson. Please remember that this is not the διάλογος of a Gorgias or a Protagoras, but a model lesson. I am a pupil in a training school, and you are the principal and fellow-students taking notes and picking holes. I will select a very short passage, and one which all know by heart—Ariel's song in the "Tempest."

"Come unto these yellow sands,
And then take hands:
Courtsied when you have, and kiss'd
The wild waves whist,
Foot it featly here and there;
And, sweet sprites, the burthen bear.

Burthen. Hark, hark! Bow, wow.

Ari. The watch-dogs bark.

Burthen. Bow-wow.

Ari. Hark, hark! I hear
The strain of strutting chanticleer
Cry, Cock-a-diddle-dow.

Full fathom five thy father lies!
Of his bones are coral made;
Those are pearls that were his eyes:
Nothing of him that doth fade,
But doth suffer a sea-change
Into something rich and strange.
Sea-nymphs hourly ring his knell:

[*Burthen.* Ding-dong

Ari. Hark! now I hear them,—Ding-dong, bell."

But one word of apology before I begin. I am aware there is nothing new in the attempt, and that I am treading in the steps of Professor Hales, whose treatment of "Rosabelle" leaves in one way nothing to be desired. As I read his lesson I stood aghast as at a conjuror with an inexhaustible bottle, or producing miles of ribaud from his mouth. But in one point he seems to me to fail. He does

not indicate the true proportion and subordination of parts. Such a lesson would swamp an ordinary fifth form boy, and, I fear, make him exclaim with Barham, in the Ingoldsby Legends—

"Non redolet sed olet quæ Rosabella fuit."

It has the cardinal fault that it smells too much of the lamp. I am reminded of the criticism I once heard a celebrated master pass on the lecture of an accomplished physiologist—"After hearing him I wanted to know nothing more about the eye."

To begin: First, I would make a clearance of the grammar and philology and word-meanings. "Nothing of him that doth fade but doth suffer a sea-change."—Here "but"=*quia* (i.e., relative-negative) will require explanation. To refer to Abbott for ellipse of "there is" is superfluous.

Such compounds as *sea-change, sea-nymph* are sure to have occurred so often as to need no emphasizing.

fathom.—The two classes of words with plural the same as singular might be noticed.

"*ring his knell.*"—"The curfew tolls the knell of parting day" is worth quoting as a stock line boys ought to know, and because the construction is disputed.

"*kissed the wild waves whist*" remains, the only difficulty of construction. Boys ought to have learnt from their notes Milton's

"The waves with wonder whist
Smoothly the waters kissed."

Does this throw any light on the construction? Has Milton borrowed from Shakspeare? Resist the tempting discursus on Milton's appreciation of Shakspeare.

So much for the grammar. Next the philology.

Whist.—Boys will see of themselves that this is an onomatopœia. The piece is so rich in these that it is quite worth while making it a text for a short disquisition. *Bow-wow, ding-dong, cockadiddle-doo, whist.*—We have not to travel outside the poem for types. *Whist*, too, is an instance how language solves the seemingly impossible problem of expressing negative ideas, and a reference to "Cavendish" is not inappropriate.

Burthen. "Wolves do howl and bark,
And seem to bear a burdon to their plaint."

Fastly, sprite, courtesy, chanticleer.—All these are worth dwelling on, because the facts of their history are within a boy's range, and each of them is interesting. On *courtesy*, for instance, see H. Spencer's essay on manners and fashions.

Strain is doubtful, and *coral, knell, pearl, fathom* are barren. These are necessary elements in an English lesson, but I should confine them within the smallest possible compass, or if possible, get them over in a preliminary lesson, so as not to blunt a boy's appetite, or divert his attention from what is the real lesson. The first thing is to show him the connexion of the song with the rest of the play. It is necessary for the plot that Ferdinand should

believe his father to be dead.—Why? The answer to this question will show how far the class have grasped the story. One of the main difficulties in reading a play with boys is to make them see that "all are but parts of one stupendous whole." In a Greek play, where the amount read is about a fifth, and the textual difficulties are tenfold, this is next to impossible. Even with a play of Shakspeare it is hard enough, and with a junior class I would begin by making them read the play in Lamb's "Tales from Shakspeare."

Secondly, I would try and shew them that the song is in character with the speaker. They will already have learnt something of Ariel—the most delicate creation of Shakspeare's genius—the spirit uncharnered as the air which he impersonates, soulless like the Undine whose story he may have heard from his sisters—his service punctual and willing, differing no less from the hated drudgery of Caliban than from the labour of love of Ferdinand and Miranda. What point in his character does the song bring out? It ought not to want much prompting to make an intelligent boy see the elemental impassiveness, the absence of human feeling, in Ariel's song. Contrast the Ariel in Shelley's "To a lady with a guitar." It is a ditty, not a dirge. Compare the song of Guiderius and Arviragus in Cymbeline. The motive of both is similar, but with one striking difference.

Lastly, there remains the higher criticism of the lyric, which I would only attempt with an advanced form. The poem is not only part of a drama, but a lyric—a picture complete in itself, and coloured by a single sentiment.

What is the picture? A calm sea with crystalline depths, half revealing forests of sea-weed, and with star-strewn bottom. Some one in the class will have read Kingsley's "Glaucus," or Gosse's "A Year at the Shore," or bathed off Tintagel, or (excuse the bathos) seen the Westminster or Brighton Aquarium.

What is there modern in the picture? Can you think of any parallel in Greek poetry? Some will have read Theocritus, and remember Galatea, "the maid more fickle and light than thistle-down, careless of her lover, and cruel as the sea."

What is the difference? A few leading questions ought to bring out the contrast between the definite conceptions, the predominance of the human element in the mythology of the Greeks, and the infinite passion, the mystery, the vague spirituality, of the moderns.

What is the dominant sentiment, the motive of the poem? A death by drowning.

Has Shakspeare treated the same theme elsewhere in the play? Alonzo thinks of his son as "bedded in ooze," and wishes that he may "lie mudded with him."—Account for the difference of tone.

Quote a similar picture from another of Shakspeare's plays. Many will have read Clarence's dream, and some will remember the "ten thousand men that fishes gnawed upon." Mr. Phillpotts here has pointed the contrast; I should have preferred a suggestion.

With a picked class I might pursue the subject further, and show how Shakspeare generally viewed death, quote Claudio's "to lie in cold obstruction and to rot," the grave-digger scene in Hamlet, "our life is rounded with a sleep," or the closer parallel of the dirge in Cymbeline.

Lastly, how have other poets treated the same subject? Lessing's "Wie die Alten den Tod gebildet," Shelley's "Adonais" and "Lines written in dejection near Naples," Wordsworth's "A slumber did my spirit seal," Milton's "Lycidas," and Tennyson's "In Memoriam" would supply topics enough. And lastly, I would make them learn Webster's "Call for the Robin Redbreast and the Wren," with Charles Lamb's criticism—"As that is of the water watery, so this is of the earth earthy. Both have that intensity of feeling which seems to resolve itself into the element which it contemplates."*

If such a lesson as I have roughly sketched could be worked out in detail, if such criticism could be evolved from boys and not dictated to them, most would allow that a more valuable result had been attained, and that at less cost, than even the power to turn the lyric into Greek anapests, or to construe a chorus of the Agamemnon.

But, it will be said, you aim at impossibilities; you presuppose a knowledge of English Literature, taste, judgment, and critical power which no boy possesses. First, I would answer that the lesson is not a fancy sketch, but was given to a sixth form of average ability. Secondly, the want of knowledge, which I freely admit, may be remedied to a great extent by good notes, or, still better, by hints given beforehand by the master. At the end of each lesson a class should be told what will be expected of them next time. Let references be given them, let their attention be called beforehand to points which are not obvious, and we shall hear no more of the difficulty of exacting an English lesson, or the want of definite work to be done out of school.

I have only touched on one side of English teaching, and neglected what many would consider weightier matters. An essay of Bacon or Macaulay would of course require very different treatment, and would bring out their reasoning faculties far better than a lesson in Shakspeare. I have shown elsewhere how I think this can best be done.

I fear you will think me very pugnacious; but, before I conclude, I feel compelled to break a lance with my friend Professor Meiklejohn. In an admirable lecture delivered before this College, in 1868, on "What is, and what may be meant by, teaching English," Mr. Meiklejohn quotes a ludicrous specimen of the *caput mortuum* to which Ariel's Song is reduced in a popular book on English

* Cuttings have been taken from several flower-beds—J. A. Symond's "Studies of the Greek Poets," and Dowden's "Mind and Art of Shakspeare."

Composition, and proceeds from this text to decry "the vile art of paraphrasing." Of course, no sensible teacher would think of setting for a paraphrase a lyric like this, where the beauty consists mainly in the exquisite form and melody. Nor am I careful to defend this, or any other book, on English Composition. But I must protest against his indiscriminate onslaught on what I regard as the backbone of an English lesson. I have found by experience that a paraphrase of such a passage as Shakespeare's "If it were done, when 'tis done," &c., or Tennyson's "So careful of the type," or Bacon's "Essay on Studies," is sure to bring to the top the more thoughtful boys, and prove to the dullest what they would not otherwise credit, that they do not understand one little word of their author. Mr. Meiklejohn would, I think, allow that two-thirds of a *viva voce* lesson with an author whose language, grammar, and modes of thought are as difficult as Shakespeare's, must consist in a damnable iteration of paraphrase, paraphrase, paraphrase; and I do not see why the same lesson on paper is any more objectionable, while it is certainly more searching. When Mr. Meiklejohn further asserts that this dissecting process must destroy every germ of good taste, and kill all sense of poetry in a boy, I can only say that I have not found it so, either in my own experience, or that of my pupils. The passages of English poetry that have clung most closely to my memory, and that haunt me like a familiar tune, are those that I had to turn into Latin and Greek verse; and this I reckon the chief, if not the only, gain from more wasted hours than I care to think of. True, the analytic process cannot go on simultaneously with the meditative or appreciative; true, we need a wise passivity to enjoy a work of art; true, "we murder to dissect." But after a time we feel all the more intensely the beauty of the living whole. "The glory dies not, and the grief is past." A rose smells as sweet, nay sweeter, to a Linnæus than to a village schoolgirl.

I wished to have said a word or two on Histories of English Literature. Speaking as a schoolmaster, they are, in my eyes, an abomination,—one and all of them, from Professor Morley's learned Sketch to Mr. Brooke's tasteful Primer. I am heartily sick of such questions as, "Name the first English tragedy, comedy, and newspaper;" "Name the authors of the 'Purple Island,' 'Mortemeriados,' and the 'Anatomy of Melancholy.'" What is a boy the better for having such facts stuck in his brain like pins in a cushion? What does it profit him to know that Donne is sententious, Browne profound but paradoxical, Cowley Pindaric but metaphysical? It is true that we must be prepared, on my plan, for abysses of ignorance. I was told by my form this morning that Dryden was the author of "Paradise Lost," and that the "Apocalypse" was a modern French novel; but this sort of ignorance is to be cast out not by text-books of English Literature, but by raising the general level of culture.

I had also meant to have touched on editions of English School Classics, to have besought Mr. M. Arnold, when next he condescends

to edit *for* as a School Classic, to write a hundred notes as good as the one note on "Little Dicky" (a feeble spark to guide a boy through six of Johnson's *Lives*); and, in particular, to have joined issue with Mr. Alöis Wright, and pleaded the cause of "æsthetic notes," or, as I should prefer to call them, notes on the matter and manner, as opposed to notes on the words. But I am warned by the "World" of this morning, where I see two Principals of Colleges gibbeted for having written schoolbooks. "Vous êtes orfèvre, M. Josse." I forbear.

To recapitulate, and keep the discussion (which I have delayed too long) to the point, I will lay down four main theses:—

1. English Literature, as a subject of school teaching, should consist in the perusal of a few of the chief works of a few of our chief classics. Selections may be admitted sparingly. Histories of Literature should be tabooed.

2. English ought to form the main subject in preparatory schools.

3. In the lower forms of higher schools, not less than six hours a week ought to be devoted to English.

4. To provide the necessary time for English, Latin should be begun later, and Greek later still,—not before 14, or I should prefer 16.

Such is the programme I propose,—a programme which, if carried out, would, I verily believe, work a revolution in education, and turn our "stocks and stubs," our "nu-ideal'd" athletes, and our Jingoes of the Music Halls into educated gentlemen and good citizens, trained in the school of Milton and of Mill. But I fear that I shall seem to many nothing but a dreamer of dreams.

AN AUSTRIAN UNIVERSITY.

In our issue for October last we reprinted an instructive letter from Dr. Adolph Oppler to an Educational contemporary describing in detail, an Austrian "Real School." Dr. Oppler has followed up his first letter by a second equally interesting and suggestive on the Austrian University system. Our readers will again be glad of the opportunity of making comparisons:—

SIR,—In my last letter I promised to give you some information about our University here, and I avail myself of the leisure of our present holiday time to fulfil my promise. There are five Universities in the empire of Austria, namely, *Vienna, Graz, Prag, Innsbruck, Lemberg, Krakau, Pest*, and *Czernowitz*. With the exception of Krakau and Pest, they may all be considered to be German Universities, and are under the same general regulations. Consequently in giving you a description of the University of Graz, you will obtain a knowledge of the organization of all of them.

As there exists no printed official history of the "Kaiserlich Karl-

Franzens-Universität" in Graz, I have only been able to gather some historical notices of it from an interesting book, recently published by Dr. Anton Schlossar. It was originally a College of the Jesuits, who till about the middle of the seventeenth century were its only teachers and administrators. But under the enlightened Emperor Joseph II. various secular professors were added to the staff, and a more unimpeded scientific spirit began from that time to stir and spread itself from the capital of Styria. The sphere of study became much enlarged and improved; one ventured to read Voltaire, Wieland, Lessing, Rousseau, &c. The imperial government gave great encouragement to the University. In the year 1763 it decreed that professors who published a learned work should receive a reward, and in 1768 all the professors of the University were released from the payment of certain taxes. Towards the end of the seventeenth century the University could already boast of some very eminent scholars. After the abolition of the order of the Jesuits by the Emperor Joseph II. in 1782, the University was changed into a Lyceum, with the privilege of granting degrees only in Theology and Philosophy. In the year 1827 it was again changed by the Emperor Franz, into the present famous University, which from its first founder the Archduke Karl, in 1586, and its new founder Franz, derives its name of "Karl-Franzens-Universität."

The University now has four faculties: (*a*) the Theological Faculty, with six ordinary, and two extraordinary professors; (*b*) the Juridical and Political Faculty, with nine ordinary professors, two extraordinary professors, and seven privatdocenten; (*c*) the Medical Faculty, with nine ordinary professors, five extraordinary professors, eleven privatdocenten, and twelve assistants; (*d*) the Philosophical Faculty, with sixteen ordinary professors, thirteen extraordinary professors, eight privatdocenten, eight assistants, and four lecturers.

Each ordinary professor receives annually from the government a fixed salary of 1,800 fl., an additional payment (*Activitats Zulage*) of 480 fl., and five quinquennial payments of 200 fl. each; an extraordinary professor may receive a salary of from 1,000 to 1,500 fl. per annum. Both ordinary and extraordinary professors receive fees paid by the students for their respective lectures. Privatdocenten and lecturers are entirely dependent upon the students attending their lectures. It may not be out of place here to state the yearly expenditure of the government on the seven Austrian Universities, properly so called,—for *Pest* is a Hungarian University, and is as such under the care of the separate Hungarian Ministry. In the Budget of the Austrian Ministry for Cultus and Instruction for 1878, I find the total sum of 3,049,311 fl. fixed for the requirements of the various Austrian Universities, in which total sum an appropriate amount for exhibitions and scholarships, to be bestowed upon deserving students, is included. Besides this, there exist separate funds

for the reward and support of deserving students in Middle Schools, High Schools, and Universities. In Styria the student's foundation amounts to 590,238 fl. In addition to this, the interests of endowments, amounting altogether to about 665,178 fl., are used for the same purpose. There exist further in the Graz University two prize exhibitions for such students as produce the best composition in Philosophy and Botany respectively, and another scholarship of 300 fl. per annum. Those students who desire to pass the Doctorship examination in Medicine or Law, or to continue their philosophical studies a fourth year, have their exhibitions and scholarships extended for another year. The Ministry for Cultus and Instruction also makes monetary grants to such students as are candidates for the office of teacher in Middle and High Schools, as well as to extraordinary professors, privatdocenten, and assistants of the University. At the same time the minimum fee to be paid by a University student for attending one lecture weekly throughout the whole year is only 1 fl.; and even from this small fee he may, under certain circumstances, be wholly or partially exempted. In this way the son of the poorest peasant is enabled to study in a University, and afterwards to rise to the highest office, according to his merit. This is an admirable feature in our State education, which has been productive of the highest benefit to many a deserving student.

At the head of each University faculty is a dean, annually elected by the whole body of professors of such faculty (*Professoren-Collegium*). The affairs of each faculty are administered by the *Professoren-Collegium* under the presidency of the Dean. The University as a whole, however, is subject to certain general regulations issued from time to time by the Ministry for Cultus and Instruction, and is governed by an Academical Senate, consisting of the Rector as President, the Pro-rector (late Rector), the four Deans, the four Pro-deans (late Deans), and the four annually elected Senatoren. The academical year is divided into the winter and summer semester; the former commences on the 1st October and lasts till Palm Sunday, the latter begins with the Thursday after Easter and lasts till the 31st July. The summer vacations are thus two months, and the Easter vacations of a fortnight's duration. Before the commencement of each semester a printed list of the academical authorities, teachers, and officials, and another of the lectures to be delivered in each faculty (with a distinct statement of the subject, time, and place of each lecture, as well as of the name and position of the lecturer), are published. It is a great mistake to suppose that these lectures are merely the readings of learned and elaborately composed essays by the professors. Both lecturers and students must co-operate together for the attainment of high literary and scientific aims, and of certain practical ends, which are finally to be tested by the severest examinations. The students have in general the liberty of choosing the lecturers and courses they want to hear.

But, for their own sakes, they have constantly to keep in view the requirements of the future "State" and "Doctorship" examinations. In order to furnish, however, to those students who first enter a faculty, a clear survey over the whole sphere of its studies, and a correct insight into the most suitable arrangement and most expedient choice of lectures, the respective teaching bodies have to provide from time to time for the delivery of "encyclopædic" lectures as a general initiation into the proper faculty studies. Both the teachers and deans are in duty bound to aid with their counsel those students who desire to have any information in that respect. But no amount of private study, however much encouraged, can dispense a student from the attendance of a certain fixed number of public lectures requisite for the passing of the rigorous State examinations. All the students are obliged regularly to attend the lectures to which they are attached. In the middle and at the end of each semester, the deans call together all the teachers of their faculties, in order to ascertain the regularity of attendance by the matriculated students, who are distinguished from the so-called "extraordinary students," the latter of whom are not subject to that supervision, but at the same time, are not admissible to any university examination. A negligent or idle student may be warned or censured by his dean, or by the whole Professoren-Collegium of his faculty, and, in case of continued irregularity, expelled from the university. If a testimonial of regular attendance is refused to a student at the end of a semester, this is not included in his legally required period of university study. Thus, although a sufficient amount of individual liberty is granted to the students, they are in no wise, as the opinion often erroneously prevails abroad, left without wholesome control as regards their studies. In reference to their moral conduct I shall have occasion to speak later on. With regard to the liberty of teaching, the following section of the disciplinary code for the universities will throw some light upon that important point:. "The academical authorities have the duty rigorously to protect the liberty of the academic teaching and life in harmony with the purpose of the universities, which consists foremost in the fostering of a strictly scientific spirit, and the formation of a true character; but, at the same time, resolutely to restrain the abuse of that liberty, and the endangering of that purpose."

The collection and distribution of the lecture fees among the respective teachers belongs to the province of the financial officer of the university, the Quæstor. Here I may as well mention that the purely business matters of the institution are under the charge of seven officials, subject to the general superintendence of the Rector.

For the admission of a candidate to the Doctorship examination, a university course of five years is required in the medical, four years in the judicial, and three years in the philosophical faculty. The candidates for the theological examinations, and for the doctor's

degree in theology, are required to have attended lectures for eight semesters. Degrees *in absentiâ* are not granted. The fees for the degree examinations are moderate.

The admission of students to the university is by means of matriculation, first into the rolls of the different faculties, and afterwards into the album of the university, upon the payment of a fee of 3fl. into the hands of the Questor. No student can be matriculated unless he has passed a "maturity" examination in a gymnasium. Shortly after the matriculation, the Rector appoints a day on which the matriculated students have to appear, in order to receive their matriculation certificates, when an address is delivered to them by the Rector or one of the Deans. As the students do not live in the university, they have to leave their addresses with the Questor, and in case of change of residence, to inform him of it within three days. "Extraordinary," or non-matriculated students are only inscribed as such if they are at least 16 years of age, and possess such a degree of mental culture as will make the attendance of lectures desirable and profitable on their part. If a student leaves the university either because he has finished his studies, or because he desires to visit another university, he must obtain a testimonial *abeundi*, without which he can neither be received in any other university nor be admitted to any of its examinations. The four stages of appeal open to a student in case of any complaint or application are: (1) to the Dean of his faculty; (2) the *Professores-Collegium* of his faculty; (3) the Academical Senate; and (4) the Ministry for Cultus and Instruction. The students must consider all announcements of the academic authorities and of the Questor placed on the black-board as duly made known to, and binding on them. All students, in regard to matters involving an infraction of the law, are subject to the general laws and regulations in respect of their academic conduct, and are, besides, liable to special disciplinary orders of the university authorities. Meetings of students in public places outside the university buildings for other than social purposes are not permitted; but they may, with the consent of the Rector, meet in one of the university lecture rooms in order to discuss and deliberate on academical affairs, although not in periodically and regularly recurring meetings. The Rector, Prorector, and the Deans have the right of being present at those assemblies, and of interrupting, or even closing, them if they appear to be contrary to the academic laws or to deviate from their specified purpose. Students' associations are also forbidden, and, in case of their existence, the members are answerable to the general civil authorities. The Academical Senate is also empowered to prevent students from participating in meetings and associations outside of the university, should such interference be considered desirable. Within certain general limits, defined from time to time by the Ministry for Cultus and Instruction, something like the provisions of the Royal Charter of your College of Preceptors, the academic

authorities enjoy unfettered freedom in the exercise of their many and important powers and privileges. The kinds of punishment for disciplinary offences, in due proportion to the nature of the offence, are the following:—

(1) Admonition and warning by the Dean alone, or before the whole *Professoren-Collegium*.

(2) Censure by the Rector before the Academical Senate; that censure may be sharpened by the threat that, in case of the repetition of even a less punishable offence, the expulsion from the university (*consilium abeundi*) would ensue without indulgence.

(3) Expulsion from the university for from 1 to 4 semesters.

(4) Expulsion from the university for ever.

(5) Expulsion from all Austrian universities.

Apart from those general punishments, students who are in the enjoyment of any scholarship or exhibition, or are exempt from paying lecture fees, can, at any time, be deprived of those privileges, should their conduct deserve it. It will thus be seen that the students of Austrian universities are, both as regards their morals and their studies, at all times under perfect control and wholesome discipline. If, in spite of such restraints, some lamentable offences do occasionally occur, it is the individuals themselves, and not the university system or authorities, who are to blame. The difference of creed among the students entails no distinction whatsoever in their enjoyment of rights and privileges. The number of non-matriculated students in the Graz University during the last semester was 763.

I shall reserve for another letter the programme of studies pursued in each Faculty.

Graz, September, 1878.

GOVERNMENT CENTRAL BOOK DEPÔT.

List of New Books and Maps received into the Government Central Book Depôt, Bombay, from 21st November to 20th December 1878.

New Editions published.

	Rs.	a.	p.
Sayad Abdul Fatah's Third Book of Hindustani, 3rd Edition 1878	0	12	0
Departmental Marathi First Book, Balbodha 7th Stereotyped edition 1878	0	1	6

New Publications.

Map of the Bombay Presidency, in Hindustani characters, coloured and mounted on cloth and rollers	3	6	0

DEPARTMENTAL NOTICES.

*Expulsion from Poona Training College and Educational Department.**

NOTICE.

Ramchandra Dhondadeo Bapat, Student in the Poona Training College, having fraudulently obtained a certificate of physical fitness from the Civil Surgeon Poona, has been dismissed from the College, and is not to be employed in the Educational Department in any capacity.

Ramchandra Mahadeva Vaidya, who assisted in the fraud, is also ineligible for employment in the Educational Department.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
4th December 1878.

Books Sanctioned.

NOTIFICATION.

The following books are recommended for use in High schools:—

Reid's English Composition.

Webb and Rowe's Hints on the study of English.

MacMordie's studies in English. Kathasangraha in two parts, by the Rev. D. Sanderson, (for Kanarese High Schools.)

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
11th December 1878.

Admission of University men to appointments in Revenue Department.

NOTIFICATION.

The subjoined Government Resolution No. 6505, dated 17th December 1878, Revenue Department, is published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
21st December 1878.

Appointments. No. 6505.

REVENUE DEPARTMENT.

Bombay Castle, 17th December 1878.

Letter from the Commissioner, C. D., No. n.-3707, dated 30th October 1878—Submitting, as desired by His Excellency the

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* See Record for December last, page 282.

Governor, a memorandum drawn up by himself, the Commissioner, N. D., and the Commissioner of Survey, on the subject of the appointment of graduates of the Bombay University to the higher posts in the Revenue Department.

RESOLUTION.—With the view of encouraging high education, of securing to those who take University Degrees such reward as may be within the power of Government, of obtaining for the executive branch the services of well educated men, the Governor in Council is pleased to sanction the following rules for the admission of University men to higher appointments in the revenue branch of the public service, and to direct their publication in the *Bombay Government Gazette* for general information :—

1. Any graduate of the University of Bombay, who wishes to enter the higher and reserved branch of the Revenue Department of the public service, must serve a probation of not less than one year as 2nd kárkun under a Mámlatdár, such appointments being reserved in future, except as hereafter provided, for graduates. At the end of this period, the probationer, if he is reported as having mastered the details of account work, &c., will be required to pass a special examination to be held in Bombay by selected examiners, who shall be, as far as possible, permanent. The examination shall be of a thoroughly practical nature so as to test the candidate's knowledge of Village, District and Huzur Accounts, of the laws he will have to administer, of the principles of survey assessment, of Departmental rules, and generally of every subject a knowledge of which is required by a Mámlatdár. On his passing this examination, he will be deemed qualified to hold the appointment of Sub-Magistrate and Head Kárkun under a Mámlatdár, and will moreover be held entitled, provided his conduct has been satisfactory, to the first vacancy that occurs as Head Kárkun. A list of persons so qualified shall be kept by each Collector, and appointments to the grade of Head Kárkun will be regulated by order in the list.

2. When any University graduate has served in the capacity of Sub-Magistrate and Head Kárkun for 6 months, he will be allowed to appear for the Departmental Examination according to the Higher Standard, and on his passing this examination, he will be held qualified, if his moral conduct has been good, and he has otherwise shown himself competent, for the rank of Mámlatdár, and will be entitled to a mámlat when a vacancy occurs. The order for conferring such places shall be regulated by the order of merit when passing the Departmental Examination, according to the Higher Standard, the names of the successful candidates being entered after such examination by the Collectors of the districts from which the candidates went up for examination. Promotion from one grade to another of a Mámlatdár's appointment will be regulated by seniority. After serving in all the different grades of that office, a graduate will be entitled to the lowest grade of Deputy Collector's appointment when any such falls vacant.

For the examinations prescribed above, a higher standard will be fixed and maintained, and great care will be taken to prevent irregular proceedings during the examination.

3. In order to prevent hardship to those persons who may have entered the service of Government before the issue and enforcement of these rules, any officer who was in the Revenue Department prior to 1st January 1879, shall be held equally eligible with a graduate for the position of Head Kárkun, Mámlatdár and Deputy Collector on his passing the above-mentioned Departmental Examinations in English within two years from the date of these rules coming into force, and shall be entitled to have his name recorded according to order of merit in the lists of graduates qualified to hold appointments in the grades of Head Karkun, Mámlatdár and Deputy Collector respectively, provided that no such candidate is allowed to appear before the Examination Committee, unless he has obtained the permission of the Collector to do so, and that no such permission is granted, unless the Collector is satisfied as to the thorough fitness of the candidate.

4. If any probationer, admitted under Rule I., fails to acquire within a reasonable time a knowledge of his duties, or fails during 18 months of probation to pass the lower standard Departmental Examination, he shall be removed from his probationary appointment.

5. These rules shall come into force from the 1st January 1879.

E. W. RAVENSCROFT,

Chief Secretary to Government.

To the COMMISSIONER, N. D., the COMMISSIONER, C. D., the COMMISSIONER, S. D., All COLLECTORS, including the Extra First Assistant Collector in charge Panch Máhál. The ACCOUNTANT GENERAL, the SURVEY and SETTLEMENT COMMISSIONER, N. D., the SURVEY and SETTLEMENT COMMISSIONER, S. D., the DIRECTOR of PUBLIC INSTRUCTION, the EDUCATIONAL DEPARTMENT of the SECRETARIAT.

Responsibility of Deputy Inspectors in regard to Book Depôts.

MEMORANDUM.

The following letter of the Director of Public Instruction, No. 3909, dated the 4th December, is published for the information and guidance of Deputy Educational Inspectors, and others concerned, in the Central Division.

T. B. KIRKHAM,

Acting Educational Inspector, C.D.

Poona, Office of the Educational Inspector, C. D.,
18th December 1878.

No. 3909 of 1878-79.

Poona, Office of the Director of Public Instruction,
4th December 1878.

To the Educational Inspector,

Central Division.

Sir,—I have the honour to inform you that the Dharwar Depôt-keeper has absconded, his books showing systematic fraud resulting in a heavy loss to Government. He appears to have been encouraged to break his trust by the incompetence of the Deputy Inspector, who allowed his clerk or the Depôt-keeper to manipulate the lists made out by the Deputy at his annual examination of stock &c.

2. The Deputy is of course responsible for loss caused by his carelessness, and I shall be obliged if you will call the attention of your subordinates to the importance of the annual examinations, and to the responsibility which they incur if they do not take the ordinary precaution of seeing that the figures resulting from their enumeration of the stock, are not altered in the fair copies of the lists sent in to the Curator.

I have the honour, &c.,

(Signed) K. M. Chatfield,
Director of Public Instruction.

APPOINTMENTS AND CHANGES.

Monthly List of Appointments and Changes in the Educational Department from 16th November to 15th December 1878.

19*th November* 1878.—Four months' leave, without pay, is granted to Mr. Vishnoo Sadashiva Mulekar, Writing and Drawing Master, Poona High School.

19*th November* 1878.—Mr. Narhar Vishnoo Kathavate, F. C. E., is appointed substantive *pro tem.* Writing and Drawing Master, Poona High School, *vice* Mr. Mulekar, on leave.

26*th November* 1878.—One month's leave out of the two months, granted to Mr. G. A. Trevadi, Sub-Deputy Educational Inspector, Halar, is cancelled.

26*th November* 1878.—Mr. N. G. Karandikar, Third Assistant Master, Kolhapur High School, is appointed substantive *pro tem.* Second Assistant Master in the same school, *vice* Mr. Dhule Kar, appointed tutor to the Chief of Miraj.

26*th November* 1878.—Mr. Narayan Ramchandra Kale, Fourth Assistant Master, Kolhapur High School, is appointed substantive *pro tem.* Third Assistant Master in the same school, *vice* Mr. Karandikar, promoted.

26th *November* 1878.—Mr. G. P. Gadre, Fifth Assistant Master, Kolhapur High School, is appointed substantive *pro tem.* Fourth Assistant Master in the same school, *vice* Mr. Kale, promoted.

29th *November* 1878.—An addition of one month's sick leave is granted to Mr. L. S. Kolatkar, First Assistant Master, Kolhapur High School.

4th *December* 1878.—Four months' sick leave is granted to Mr. Ramkrishna Chimnaji Bapat, Seventh Assistant Master, Poona High School.

4th *December* 1878.—Mr. Vithal Mahadeo Gokhale is appointed Acting Seventh Assistant Master in the Poona High School, *vice* Mr. Bapat, on leave.

5th *December* 1878.—Four months' leave, without pay, is granted to Mr. Paul Guneshrao, Fourth Assistant Master, English School, Karwar.

6th *December* 1878.—One year's leave, without pay, is granted to Mr. Nassarwanji Jamshedji Ratnagar, Seventh Assistant Master, (Guzerati side), Elphinstone High School.

6th *December* 1878.—Mr. F. B. Karani, Eighth Assistant Master, (Guzerati side), Elphinstone High School, is appointed substantive *pro tem.* Seventh Assistant Master in the same school, *vice* Mr. Ratnagar, on leave.

6th *December* 1878.—Mr. F. R. Billimoria, Ninth Assistant Master, (Guzerati side), Elphinstone High School, is appointed substantive *pro tem.* Eighth Assistant Master in the same school, *vice* Mr. Karani, promoted.

6th *December* 1878.—Mr. N. P. Desai, Tenth Assistant Master, (Guzerati side), Elphinstone High School, is appointed substantive *pro tem.* Ninth Assistant Master in the same school, *vice* Mr. Billimoria, promoted.

6th *December* 1878.—Mr. M. D. Arjani, Eleventh Assistant Master, (Guzerati side), Elphinstone High School, is appointed substantive *pro tem.* Tenth Assistant Master in the same school, *vice* Mr. Desai, promoted.

6th *December* 1878.—Mr. Lord, Twelfth Assistant Master, (Guzerati side), Elphinstone High School, is appointed Eleventh Assistant Master in the same school, *vice* Mr. Arjana, promoted.

6th *December* 1878.—Mr. F. K. Bajan, Thirteenth Assistant Master, (Guzerati side), Elphinstone High School, is appointed substantive *pro tem.* Twelfth Assistant Master in the same school, *vice* Mr. Lord, promoted.

6th *December* 1878.—Mr. E. R. Sahiar, Ninth Assistant Master, (Marathi side), Elphinstone High School, is appointed substantive *pro tem.* Thirteenth Assistant Master (Guzerati side) in the same school, *vice* Mr. Bajan, promoted.

6th December 1878.—An extension of six months' leave, without pay, is granted to Mr. Mulchanda Dayabhai, First Assistant Master, Branch School No. II., Ahmedabad.

6th December 1878.—Leave without pay is granted to Mr. A. M. Thakar, Seventh Assistant Master, Satara High School, commencing from the 10th December to 16th February 1879.

6th December 1878.—Mr. H. P. Lad, Eighth Assistant Master, Satara High School, is appointed substantive *pro tem.* Seventh Assistant Master in the same school, *vice* Mr. Thakar, on leave.

6th December 1878.—Mr. L. C. Bapat, is appointed substantive *pro tem.* Eighth Assistant Master in the Satara High School, *vice* Mr. Lad, promoted.

6th December 1878.—Mr. Gopal Manjunath, Assistant Master, Compta First Grade Anglo-Vernacular School, is appointed Second Clerk to the Deputy Educational Inspector, Kanara.

6th December 1878.—Mr. P. F. De Souza, Fourth Assistant Master, Karwar English School, is appointed First Assistant Master, Compta English School, on Rs. 40.

6th December 1878.—Mr. Ramchandra Jewaji Joshi, First Assistant Master, Hubli School, is appointed Fourth Assistant Master, Karwar English School, *vice* Mr. De Souza, transferred to Compta, and also substantive *pro tem.* Third Assistant Master in the same school, during the absence of Mr. Paul Guneshrao, on leave.

6th December 1878.—Mr. Hucharao Anant Dongare, Fifth Assistant Master, is appointed substantive *pro tem.* Fourth Assistant Master, *vice* Mr. R. J. Joshi.

6th December 1878.—Mr. Narayan L. Aya Bhatkal, Sixth Assistant Master, is appointed substantive *pro tem.* Fifth Assistant Master, *vice* Mr. H. A. Dongare, promoted.

6th December 1878.—Mr. Gururao Raghavendra Gunjikar, is appointed substantive *pro tem.* Sixth Assistant Master, *vice* Mr. Bhatkal, promoted.

6th December 1878.—An extension of six months' sick leave is granted to Mr. D. B. Deshpande, Third Assistant Master, Dhulia High School.

7th December 1878.—The appointments of Messrs. V. B. Bhide, and M. G. Wagle, published in the *Educational Record* for last month, are cancelled.

12th December 1878.—Two months' leave without pay is granted to Mr. Keshava Shesho Jakati, Sixth Assistant Master, Dharwar High School.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
19th December 1878.

THE

Bombay Educational Record.

No. 2.] FEBRUARY 1, 1879. [Vol. XV.

THE MONTH.

We give a classified matriculation class list this month on the same plan as that published by us last year. The first class consists of those who obtained fifty per cent. and upwards of the total number of marks awarded in the examination, the second class of those who obtained 40 per cent. and upwards, and the third of those who pass but with less than 40 per cent. total marks. The results on the whole show an advance on those of last year. Last year, out of a total of 217 passed, 22 only gained 50 per cent., and 103, 40 per cent., leaving 92 in the lowest division of merit. This year, out of a total of 261, 37 appear in the first division and 155 in the second division, leaving only 69 in the lowest division. The percentage of passes to the total number of candidates is gradually recovering from the great drop of 1876. In 1875 the percentage was 35, in 1876, 18, in 1877, 21, and in the examination just concluded 27.

Sir Madhava Rao has pronounced himself a downward filtrationist in education, and illustrates his view with characteristic felicity. At the opening of the Baroda College he said:—"But my profound conviction is that the higher education, though necessarily of a small number, is still more important in the present condition and circumstances of India. I feel convinced that one Native, to whom high education has been imparted at an expense of Rs. 1,000, contributes infinitely more to the general progress of the community than 333 Natives, only slightly or superficially educated at a charge of Rs. 3 per head. I purposely put it in the dry arithmetical form. The truth is, a certain force is required to break the iron chains of intellectual bondage, and mere elementary

education fails to generate the required force. In this connection I am reminded of a simple apparatus known as the hydraulic bellows. This illustrates how a large mass of water may be made to press upwards by means of a small quantity of the element, provided this small quantity is maintained at a much higher level than the mass. The force exerted by the high yet thin column is immeasurably multiplied on the mass below. Just so in regard to education."

A new supplemental charter having been granted to the London University a few months ago, empowering the Senate to admit women to graduate in its several Faculties (arts, sciences, law, medicine, and music), on such conditions as the Senate, with the concurrence of the Home Secretary, should deem expedient, the Senate passed a resolution which made all the existing regulations relating not only to graduates, but also to the various honours and rewards granted at the several examinations, open to female as well as to male candidates. This resolution having been now approved by the Home Secretary, female candidates have been at once admitted to the matriculation examination; and all such as have already passed the general examination for women will be considered as having matriculated, and will be admissible, after the required intervals to the first degree examination in either of the Faculties. Further, with a view to the special encouragement of female candidates desiring to go through a regular academical course, the trustees of the Gilchrist Educational Trust have instituted two exhibitions, one of £30 and the other of £20 per annum, tenable for two years, to the female candidates who pass highest in the honours division at the matriculation examination; and two exhibitions, one of £40 and the other of £30 per annum, tenable for two years, to the female candidates who pass highest at the first B.A. examination, provided that they obtain in the first case two-thirds, and in the second three-fifths, of the total number of marks, to assist them in pursuing their studies at some collegiate institution approved by the trustees, with the further reward of a gold medal of the value of £20 (or of a book prize of the same value), to the female candidate who passes highest in the second B.A. examination, if she obtains not less than two-thirds of the total number of marks. These rewards are independent of those granted by the University, and may be held in conjunction with them.

THE Cambridge Syndicate appointed to consider whether it is expedient that measures should be taken by the University for the preparation and examination of teachers, have agreed to the following recommendations:—That a Syndicate be appointed, as a managing Syndicate, to continue for three years from Michaelmas, 1879, to organize courses of lectures on the theory, history, and practice of education, and to organize and superintend examinations in the same subjects, and to award certificates of proficiency on the results of the examinations. The Syndicate also to have power to superintend the inspection and examination of any colleges established for the training of teachers of schools, other than elementary, that may invite the aid of the University, and to award certificates to the students of such colleges, according to the results of such examination, and also to test and certify the practical efficiency of actual or prospective teachers in any other way that may be found expedient. The title of the Syndicate is to be "The Teachers' Training Syndicate." They are to appoint lecturers, subject to confirmation by grace of the Senate, to deliver lectures on the theory, history, and practice of education. One course of lectures on each of the above-mentioned subjects to be provided in the University in each year, the first course to be given in the Michaelmas Term, 1879. There is to be one examination in each academical year, the first to be held in June, 1880, at Cambridge, and simultaneously at such other places as the Syndicate shall from time to time determine. No candidate to be admitted to the examination unless he or she have either graduated in some University of the United Kingdom; or satisfied the examiners in Parts I. and II. of the Previous Examination; or satisfied the examiners in one of the higher Local Examinations of the Universities of Oxford or Cambridge; or satisfied the examiners of the Oxford and Cambridge Schools Examination Board in the subjects accepted by the University as equivalent to Parts I. and II. of the Previous Examination; or satisfied the examiners in one of the Senior Local Examinations of the Universities of Oxford, Cambridge, or Durham, in English, and at least one language, ancient or modern, and in Euclid and Algebra; or passed the examination for Matriculation at the University of London; or passed such other examination as the Syndicate may from time to time determine to be sufficient.

THE Cambridge Mathematical Tripos has been a great surprise this year. Neither Trinity nor St. John's has come up to the usual

mark; and the Senior Wrangler's blue ribbon has been carried off by an outsider—Mr. Allen, of Peterhouse. The Second and Third Wranglers are also smaller College men. Trinity and St. John's do not appear till the fourth place is reached, where each has a man bracketed. The same Colleges have each five Wranglers, and are nearly equal in the number of Senior and Junior Optimes. Three Trinity men had a hot race for the wooden spoon; but that distinction, too, was carried off by a small College. It is satisfactory that the Senior Wrangler this year, as last, was not a man of mature years who had previously gone the round of every competition open to him, as has been too often the case lately; but a man of twenty-three, who has fairly won his honours as they used to be won before the present system of trotting from University to University had come into practice.

They are again discussing at Cambridge the propriety of substituting an alphabetical order for the order of merit in the Tripos Class Lists. There is, doubtless, much to be said in favour of the alphabetical system; but the preponderance ought to be very great that upsets an arrangement that has worked so well for nearly a century and a half.

At a general meeting of the National Health Society, held lately in London, the following resolution was passed:—"That this Society earnestly expresses the hope that the School Board for London will, at the earliest possible opportunity prior to the ensuing spring, find means for fitting and opening the playgrounds attached to the Board schools, for the purpose of systematic recreation during the Saturday evenings and summer holidays."

MATRICULATION EXAMINATION, 1878.
CLASSIFIED LIST.

	First Division.	Second Division.	Third Division.	Total Passed.
Elphinstone High School	7	23	11	41
St. Mary's Institution, Bombay	3	15	5	23
Poona High School	3	12	6	21
Bombay Proprietary School	1	8	5	14
Fort High School	...	9	4	13

	First Division.	Second Division.	Third Division.	Total Passed.
Sir J. J. Parsee Benevolent Institution	1	6	1	8
Karnchee High School	1	6	1	8
Ahmedábád High School	3	3	2	8
Robert Money Institution	...	4	3	7
Dharwar High School	3	4	...	7
Bishop's High School, Poona	1	4	1	6
Násik High School	1	3	1	5
Surat High School	1	4	...	5
Rajaram High School, Kolhapore	1	4	...	5
Ratnagherry High School	2	2	1	5
Hyderábád High School	...	5	...	5
Chandanwádi High School	1	3	1	5
Oomrawnttee High School	1	3	...	4
Bombay High School	...	3	1	4
General Assembly's Institution	...	3	...	3
Baroda High School	...	3	1	4
Poona Native Institution	...	1	2	3
Broach High School	...	3	...	3
Sir Cowasjee Jehangir Nowsari Madressa	...	2	1	3
Satara High School	...	2	1	3
Dhulia High School	...	2	1	3
St. Vincent School, Poona	...	1	1	2
Karwar High School	...	1	1	2
Belgaum Sirdars' High School	1	...	1	2
Kattywar High School	...	1	1	2
Surat Mission School	...	2	...	2
Ahmedábád L. P. Mission School	1	...	1	2
St. Mary's Girls' School, Poona	2	...	...	2
Nariad High School	...	2	...	2
Bombay Scottish High School	1	...	...	1
Bhownuggur High School	1	...	...	1
Engineering School, Hyderabad	1	...	...	1
Shikárpur High School	...	1	...	1
Poona Engineering College	...	...	1	1
Akola High School	...	...	1	1
Poona Mission School	...	...	1	1
Bombay Private English School	...	1	...	1
Ahmednuggur High School	...	1	...	1
Free General Assembly's Institution	...	1	...	1
Private Tuition, Bombay	1	2	6	9
Do. Mofussil	...	5	6	11
Total	37	155	69	261

PRACTICAL HINTS ON TEACHING.—I.

Teaching the Alphabet.—The following practical hints may be found useful to young teachers. The point is "How to make the teaching of the Alphabet interesting to young beginners":—

1. Select one letter, *o*- for example, point it out to the pupils in different places, and let them repeat it; then *print* (not write) it on the slate or black-board. Next repeat the process with the letters *d* and *g*, until they can recall them at sight. Then print on the board *d-o-g*, and let the children repeat it till they can recall the word wherever they meet it. Next take *cat*, *rat*, and other familiar words, and in a short time they will learn the powers of the letters, and be able to apply them in new combinations. In this way the alphabet, instead of being taught in the usual dreary way right off, from beginning to end, will be learned as fast as it is needed, and at every step what is learned will be at once applied.

2. Another method with which the previous one may be varied occasionally, is the following:—Take a well-printed newspaper, and point out the letter *o*, and make the children pronounce it, and then let them find the letter elsewhere on the paper. Then give each one a pin, and let them prick through all the *o*'s they can find. Children will amuse themselves by the half-hour in this way, and by taking one letter at a time, they will literally pinhole a paper to pieces.

3. Another method: let the little ones take your pencil and point out all the letters required of them they can find in a printed page; this will please them.

4. Another method still: have a set of cards with the alphabet on them, and teach the children certain letters at a time, and to combine them into the words *dog*, *cat*, *rat*, &c.

5. As a revision exercise, make them point out from time to time in the book all the letters and words they know, and make them feel how nice it is. When the words are recognised and properly pronounced, make them *count* the letters in the words *dog*, *cat*, &c., as a help to spelling, by associating the words in their memory with the number of their constituent letters.

6. As pupils advance in the work of reading and spelling words, let them repeat and spell all the words they can recall *without book*. This serves as an admirable review. The ingenious teacher will devise various other measures by which to secure the attention of young children, once they enter on the path of trying to make lessons interesting to them.

A FEW WORDS ON MORAL LESSONS.

The master of a school has not to deal with intellect only. He has to train children, possessed of a physical and moral nature, as well as of intellectual gifts. He cannot deal with these irrespective of those. It is true, he may ignore them; but, if so, it will be worse

for the work to which he gives exclusive regard, and it will be irreparable injury to the children themselves. For a moral training is going on, though he may not be controlling it. Constituted as a child is, it is impossible to train the intellect alone. Hence the misfortune is, that where a master gives all his attention to the intelligence, the moral nature is dwarfed and warped. The mistake in neglecting moral culture is similar to that of a gardener who carefully cultivates one portion of his ground, and leaves an adjoining piece to thistles and weeds. A master should clearly understand that the communication of knowledge does not lead to greater purity as moral beings. In itself knowledge has no such tendency. Alas! too often the contrary is the fact; knowledge and genius too frequently gild the grossest corruption. But though knowledge is not the parent of virtue, vice is not therefore its offspring. Still there is likely to be a thick moral darkness, into which no light can penetrate until the conscience has been irradiated by the Sun of Righteousness. A master should see, too, that where his sole concern is the culture of intelligence, he is making an impression on his pupils that the head is of more importance than the heart, and that such pupils going forth into the world would order their career by the same vicious rule.

Under present conditions, masters have many temptations to neglect the highest part of their work. Moral training does not show. There is no splendour about it. It does not get trumpeted forth. An inspector or an examiner can measure somewhat the work put into the teaching of reading, spelling, and arithmetic: but however skilled he may be, he can see marvellously little of the toil, care, and anxiety that have been spent on the other. The growth of this is slow, the process is hidden, the previous condition unknown, and the work unappreciated. Yet, no, not that; there is One who knows —One has marked the patience, forbearance, self-denial, gentleness, generosity, kindness, and the ardnous, persevering, and unwearying labour to get these amongst the pupils, and to train them in nobleness of feeling, aim, and thought, and in love to God and their fellows; and He renders at length to every man according to his work. The teacher should fortify himself amidst his difficulties and temptations by such a consideration as this. He should also be stimulated by the fact that within that hidden organism—a child's mind—vast powers lie enfolded by which he may be connected not only with all that is noble in human progress, but with a higher life, derived from God Himself, and which, developed and fostered here, will run parallel with that of the Eternal.

Moral training in school has many sides, and is the product of many agencies. At present we have to do with one of those belonging to the master—an important one, yet not the most valuable. For it is not only the precept, but over and above all, the practice to which he must address himself. He must not only form the moral intelligence, but he must cultivate moral habits. To teach and to relieve to practice what is taught: to instil moral truth; to lead to

its practice in deeds of kindness, sympathy, forbearance, and truth, and constant regard to duty, are the things demanding his care. He ought to try to secure the engrafting of right principles, the culture of proper feelings, and the formation of moral habits. He who has such aims will need to do more than teach. He must train. He will mark angry looks, hasty words, acts of teasing or of tyranny, instances of selfishness, and deviations from truth and honesty, as in copying, scratching desk, writing on walls, and the careless use of books. He will also note deeds of kindness, sympathy, forbearance, and resistance to temptation. At a fitting time he will take up the looks, words, or deeds, and so treat them as to awake the sympathy or enlighten the conscience of his charge. In doing this, he will direct attention to the actions, and not to the individuals. He will also let it be seen that he esteems an act of forgiveness a thousand times, more than the repetition of a hundred texts. Such a master will also often sit in judgment on himself. Have arithmetic, geography, and grammar driven from his thoughts the moral habits his pupils are forming, and the moral sentiments they are imbibing? Has he punished for a misspelt word in a similar way as for a lie? Has he cultivated conscience as much as he has memory? He will also, in view of the perilous circumstances in which his pupils will commence the battle of life, often ask himself whether his treatment is calculated to produce habits of well-doing? Whether he is fortifying them against the temptations they must encounter? And whether he is always keeping in view the formation of character as his chief aim?

The master who is thus careful about moral training will be ever anxious about the moral atmosphere in which the children live, and to give a right tone to all the school work. This will be manifested not only by the diligence and uprightness which mark the performance of duties, by the evident sympathy with whatever is noble and good, but especially by the general sorrow and distress when cases of wrong occur. Such things will be felt as a common misfortune, which every one should mourn over and strive to remove. "*Our* Robert has been very naughty, and we are all very sorry," should be the sentiment awakened by the rebuke of a delinquent. The master, too, who is thus forming the moral atmosphere, will take great pains to point out the inseparable connection between deeds and results. When a child is suffering from an act of thoughtlessness or sin, he will point out that these two are always joined. He will do so too, when a child feels the pleasure following a deed of kindness.

Moral lessons have for their aim first to inform the mind of the nature of duty, thus to enlighten the conscience, and thereby to implant principles for guidance in all affairs. In doing this, instances of conduct, prohibitions of particular acts, or rules for special deeds, will be the occasions for these lessons. These are to be so treated that the result will be not merely to prevent or secure a particular deed, but by means of it to place a principle in the mind, which should

govern not only in these particular cases, but in many others. Thus a lesson on teasing should not only tend to prevent such conduct, but to make the golden rule the living principle of the life. This first step is the culture of the conscience. The conscience always decides by some accepted standard of duty, and approves or disapproves accordingly. . . .

Moral lessons, to be effective, must be addressed not only to the intelligence, but to the feelings and sympathy. The lesson must consist of incidents and illustrations drawn from the sphere of child life; these must be graphically pictured so as to take possession of the child's imagination, and the main features so delicately yet truly delineated as to awaken spontaneously the appropriate feeling. Here a word of caution. The purpose is not to get the expression of feeling, much less to get a formal statement of the truth he is setting forth; but so to put his facts, illustrations, and incidents that the feeling will spring forth as a matter of course.

The moral lesson must be tested by its influence on the conscience and will. Its prime aim is to lead to habits of right action. Children should leave such lessons with a fixed determination to do the thing that has been enforced, or to avoid the thing that has been forbidden. Not that they are to be asked to express such determination in words. It is no duty of the teacher's to exact formal views, no more than it is to get the expression of a feeling. He is not to stimulate, where the result might be self-deception or hypocrisy.

Moral lessons are best given to groups where sympathy is most possible. In the collective lesson then, there is a force which intensifies an awakened feeling, strengthens the unspoken decision of conscience, and confirms the determination to go "and do likewise."—*Condensed from a paper by Mr. John Gill of Cheltenham.*

"THE THEORY OF 'USEFUL' EDUCATION."

1. In speaking of "useful" Education, I do not entertain the question discussed by Mental Science—What the "useful" is. The sense in which this word is employed by some writers on Mental Philosophy—that is, to mean, and to embrace in its meaning whatever conduces to happiness—is not the sense Lord Palmerston's oracle, the Man in the street, puts upon the word. Mr. Stuart Mill has eloquently, in his famous Essay, expressed the highest views of the useful; but the Man in the street means, by the Useful, a commodity quickly convertible into money. He understands a useful education to be the cheapest and quickest acquisition of knowledge that can be turned without trouble to the service of trade. And if his view be admissible, the educational difficulty is solved: and Mr. Herbert Spencer's conclusion is correct:—

"If men are to be mere cits, mere porers over ledgers, with no ideas beyond their trades; if it is well that they should be as the

Cockney, whose conception of rural pleasures extends no further than sitting in a tea-garden, smoking pipes and drinking porter; or as the squire, who thinks of woods as places for shooting in, of uncultivated plants as nothing but weeds, and who classifies animals into game, vermin, and stock,—than indeed it is needless to learn anything that does not directly help to replenish the till and fill the larder."—*Essays in Education*, p. 78.

This work of Mr. Spencer's is remarkable both for the extreme forcibleness of his expressions, and for a large ignorance of education as it actually exists. For instance, he thinks that, in giving a boy a classical education, we are endeavouring to conform simply to public opinion (p. 2). That a lady learns Italian and German that she may be able to sing ballads in those languages, and command whispered admiration (p. 3). That History is taught in our schools as a mere tissue of names and dates, and dead unmeaning events (pp. 11, 29).

Or again, that our education will make men careless of the architecture of the heavens, yet anxious in some miserable controversy about Mary Queen of Scots—or learnedly critical over a Greek Ode, yet pass by without a glance the grand Epic written by the finger of God upon the strata of the earth. These and similar misapprehensions of things as they are, disfigure the book, which embodies a popular enquiry into what useful education signifies.

But while he concludes in favour of experimental or natural science, as the highest vehicle of sound education, there is one aspect of the question he refuses, it would seem, to discuss.

Of commercial education—instruction in Reading, Writing, and Arithmetic—he says nothing. Accurately speaking, there is nothing to discuss. The most furious despot, it has been said, fails to tyrannize over the multiplication table; a Claudius could not succeed in forcing a new alphabet on his subjects. And it is within the safe limits of the alphabet and multiplication that the lowest forms of instruction contain themselves.

There is no room for opinion in these matters. To be the master of the three R's is no special credit—but to fail in the three R's is a very special disgrace. To argue about their usefulness, is like, in an argument, whether clothes ought to be decorative preferably, or comfortable preferably, one should begin to argue as to the utility of wearing clothes at all.

But useful education, in the commercial sense of it, embraces commonly other things—Book-keeping, History, Geography, and possibly a smattering of French. But it would be hard to shew how these things can be brought straight away from the school desk to be applied in the counting-house. Book-keeping, as taught in schools, and Book-keeping as found in merchants' offices, necessarily vary. The manuals of instruction provide types, of which business houses afford variations; but training in the manuals does not necessarily

elicit intelligence enough to grapple with the variations. History is not now taught, according to Mr. Spencer's notions, as a dry collection of quarrels between kings, bloody conspiracies, and unfruitful dates; but, whatever method of teaching History be adopted, the study has no immediate bearing on commercial life. Its obvious sphere is the past. But what has mercantile life to do with the past? The balancing of last year's books is the farthest point behind him a commercial man needs to keep in view. Geography, indeed, brings something more in its train; by its aid, the young employé knows whether he has spelt the address of a foreign letter rightly, or avoids sending a despatch to India viâ St. Petersburg. But the truer part of the study, Physical Geography, will aid him no further than the knowledge of the time and track of a China tea-ship; while, in the majority of cases, all the interesting information identified with that pleasant study will be as "useful" to him as a portable acquaintance with Martial's famous description of a Roman Day. (Epigrr. iv. 8.)

French is occasionally enquired after—but of what kind is the French to be? Is it the French of Brachet, and of Littré: the method which has elevated the study of that language into the vehicle of a sound training in Philology: or is it to be the French of the Parisian Stock Exchange? If the former, the time required is more than the commercial alumnus is inclined to bestow; and if the latter, he will seek the commodity in vain. French business slang can no more be taught in schools, than a sound knowledge of the marks on old china.

That these things are taught at all must arise, not from the sense that History, Geography, and school French are marketable goods of ready pecuniary value—but from a sense, unconsciously expressed in conduct, that, notwithstanding loud assertions to the contrary, the "useful" is not the true end in view.

In touching on this branch of the subject, it may be fairly asked: if commerce demands a training *ab ovo*, why not apply the principle further? Why not make the work, "Every man his own lawyer," a school reading-book. Every man has to deal with law: we have to pay taxes—must be tenants or landlords, employers or employed—must make wills—may be legatees—may have to serve on juries—and, most likely, shall have to appear in courts in some capacity,—many hope to get married,—and we shall all die: all instances where a little prior knowledge of law would have been clearly useful. Surely, in schemes of "useful" education, here is a clear case. I might press the case of a Porphyrogenitus—some one born to a throne, or another born to be a hereditary legislator: here the reflections are obvious. Or, again, put the case of a lad intended for the army: he, in all probability, will be sent to India; he certainly must know the Queen's Regulations: why not train him in the Indian vernacular? Why not develope his memory by frequent repetitions of the instructions for musketry exercise?

These suggestions are doubtless absurd: but how more absurd than putting a young fellow through those facings which make him the lord of the ledger? How often have we seen noble young intelligences sent into that defile—to emerge like the Romans from Caudium *sine calathis*, and with their intelligence darkened through that insulting discipline.

2. In England, in America, in the Colonies, and in France, what is understood by a commercially useful education ought to be impossible. There is no citizen of these countries who may not reasonably expect to be called, at some time or other, to functions exterior to his profession, likely to demand knowledge other than professional knowledge, and powers other than professional powers. Where is the barrier to the advancement in these countries? With ourselves, every position except the throne is open to ambition. In France and America, the position analogous to the throne is within the attainment of any one. There is not a boy now at school who may not hereafter assist in making Imperial laws, or at any rate in administering Imperial jurisdiction. There are very few boys now at school who may not hope to direct or inspire some one of the smaller sources of feeling and opinion which really mould the opinions of the whole.

These are facts of our political alphabet—for they have passed out of controversy years ago—and it is presumable that, in thinking of education, they should be allowed due weight. If this influence is granted, education should be based on some of the possibilities, as well as on the proximate probabilities, of life. If there is to be a field of imagination in the conduct of education at all, it will be found in endeavouring to train the mind to instruct itself, or perhaps of giving it such an impulse in the direction of the higher culture that nothing short of violent counter-motives will succeed in stopping it.

A great people, or a great cause, must be ruled by great ideas; and a nation which has thickly raised palaces of gratuitous instruction for the poor—professedly because a schoolmaster is more economical than a Prison Rate, but really from a higher and more generous motive,—must plead to being under the influence of a great idea. The true idea of education is the cultivation of wide sympathies, based upon accurate knowledge of certain branches of culture, without any reference to immediate commercial value or utility.

3. But if this estimate be true, it is very far wide of the mark aimed at by even those who would repudiate a commercial education as their terminus, but who still want something "useful" in return for their money.

The question immediately comes up,—where are they to get it? By a general consent in certain quarters, the Classics have been banished from their former supremacy, although I may truly say,

in my belief, "*tamen usque recurrat.*" It is generally known that six, perhaps ten, years must elapse for the production of that incommunicable something consequent on high classical culture; and that, to acquire this result, was the end of the old Liberal Education.

The notion of a Liberal Education is fading away before the doctrine of results. The burden of incessant examination is almost more than the fine strain of classical scholarship can bear. And the idea that Latin Hexameters and Greek Prose have any immediate relationship to the concerns of every-day life cannot be sustained. Hence there is an impatience of classical training. Most people grasp at and a taste for old china or pictures together. They characterize it as useless learning. The classes who owe most to the resurrection of the Classics from the tombare the middle classes: for Greek and Latin, historically, are a revolutionizing influence. When Horace sprang out of his ashes, he came to Colet and to Erasmus as the gay sceptic in whose company they could laugh down the superstitions of the time. It is by a strange turn of the wheel, whose backward whirl a well-known Horatian maxim bids us forecast, that the children of the Renaissance assail those very studies which alone can be called liberal. No commercial educationist of our time could possibly feel so much suspicion and dread of a young fellow with a good knowledge of Greek, as did the average English gentleman of the sixteenth century. Each in his place would heartily join with that old Rabbinical anathema, "Cursed be he that keepeth a pig, or that teacheth his son Greek." And yet a very great man, who has touched more points in the circle of knowledge and experience than many men can ever hope to do, wrote these words to a friend:—

"What I feel is, that the relation of pure science, of natural science, modern languages, modern history, and the rest, to the old classical training, ought to be founded on a principle, and that these competing branches of instruction ought not to be treated simply as importunate creditors, that take one penny in the pound to-day, because they hope to get one shilling in the pound to-morrow, and in the meantime have a recognition of their title.

"Its recognition of title is just what I would refuse: I deny their right to a parallel or equal position; their true position is ancillary, and as ancillary it ought to be limited and restrained without scruple as much as a regard to the paramount matter of education may dictate.

"The truth I take to be, that modern European civilization, from the middle age downwards, is the compound of two great factors—the Christian religion for the spirit of man, and the Greek (and in a secondary degree the Roman) discipline for his mind and intellect. . . .

"The materials of what we call classical training were prepared

—and, we have a right to say, were advisedly and providentially prepared—in order that it might become . . . . the complement of Christianity in its application to the culture of the human being."—(Rt. Hon. W. E. Gladstone, Public Schools Commission Report, vol. ii., p. 49.)

No one in our time will attempt to dispute that very beautiful culture may not be attained without intrinsic knowledge of the classical authors.

But the truth being that, while the ideas of Greece and Rome have passed into our literature to such a degree that no student can fail to imbibe their influence, there is not always individual need of reference to the sources and springs of literary inspiration. Hence they are the common heritage of all educated men—of him who has learnt the Greek geometry and builds a bridge, and of him who exemplifies the fire and pathos of tragic composition. The material ideas of Athens and of Rome are now in the very pulse of culture.

But as the highest culture goes beyond ideas to their ultimate form, and as these ideas must be sought for in the exquisite shapes of their original diffusion, and as language has its share of art, and is capable of being made intrinsically beautiful, so must the highest education be sought in the medium of these studies.

The common run of feeling being, however, that these studies are not "useful," let us search for the useful in what remains. There remain only Mathematics and Natural Science. For the abolition of the severe study of the ancient languages, with their collateral topics, abolishes also the study of modern languages, and with them the muse of History. No one will contend that the acquisition of French or German, in the way that they can be most easily acquired, constitutes an education. A courier who initiates travellers into the ways and doings of some foreign town, is often very facile in six languages, and lives by that knowledge; but somehow we have grown to associate a great facility in Continental languages with the same sort of cleverness which makes a facile billiard player or a facile bookmaker. A child may pick up a knowledge of at least two languages in the nursery, by association with a French or German *bonne*, but the absence of any effort in acquisition deprives the process of any educational value.

History, as a severe study, cannot be prosecuted with either consistency or consecutiveness, if we omit from calculation the authorities, the evidence, the art, the religion of a thousand years. Clio cannot remain with those who have expelled the Homeric narrative equally with the language of the New Testament, and who forbid us read with Tacitus what manner of men we were in the German forests, or with Cæsar of our own land as he saw it.

In Mathematics, however, in its early branches, the apostles of Useful Education claim to find something sound and reliable.

But it is not quite clear that the object is surely attained. That Mathematics have been made in England the sole means of culture in the early stages of education, does not come within my knowledge; but that the attempt has been seriously made elsewhere, appears from the following remarks of the late Mgr. Dupanloup. Speaking of the Ecole Polytechnique, he says:—

"Mathematics are often a study too laborious, too hard for these young scholars. . . .

"Beyond all doubt, Mathematics give consistency to, and ripen, by vigorous and useful exercise, by their toilsome intellectual gymnastics, reflexion, judgment, reasoning powers; but they require absolutely that these faculties already possess a certain vigour and development, otherwise they crush them. . . . Always, when Mathematics are allowed to have a despotic or premature influence in education, the result is disastrous.

"Not only do they obliterate from the mind the grace, brilliancy, generous sentiments and kindly feeling, due to imagination and poetical feeling, but they destroy the sense of moral justice. . . .

"These are disastrous results . . . and what do we gain by incurring them? We often make the mathematician at the expense of the man . . . and often we have, perforce, to regret the absence of both the mathematician and the man."

If education is intended to adapt men for the world, Mathematics minister to the result feebly. There are hundreds of daily events it is impossible to force into mathematical relationship. The very rigidity and accuracy of the study are drawbacks. It is no use trying to adapt methods, that must eventuate in neat solutions or nothing, to the habits of a being whose ordinary life is a series of petty uncertainties. "Mathematics," it has been well said, "have been brought into matters where their presence is of doubtful utility. If they have given precision to literary style, that precision has been sometimes carried to excess. If they have tended to clearness of expression in Philosophy, that very clearness has sometimes given an appearance of finality not always true. If they have contributed to definition in Theology, that definiteness has often been fictitious, and has been attained at the cost of spiritual meaning." —(*Quarterly Review*, Oct. 1867. No. 246.)

The famous attack of Sir William Hamilton on mathematical study (Hamilton, "Discussions," pp. 313, 314, &c.) has had this advantageous effect: that, in the rejoinders it evoked, all that could be said in their favour was said by Whewell, and DeMorgan, and Mill.

Taking Mill as the foremost opponent of Hamilton on this as on other topics, there are passages in his apology for Mathematics fraught with instruction.

"Descartes," says Mill ("Mill on Hamilton," p. 540) "is the completest type history presents of the purely mathematical type of mind, that in which the tendencies produced by mathematical cul-

tivation reigns unbalanced and supreme. This is visible not only in the abuse of Deduction, which he carried to a greater length than any distinguished thinker known to us, not excepting the Schoolmen, but even more so in the character of the premises from which his deductions set out.

"And here we come upon the one really grave charge which rests upon the mathematical spirit in respect of the influence it exercises on pursuits other than mathematical. It leads men to place their ideal of science in deriving all knowledge from a smaller number of axiomatic premises accepted as self-evident, and taken for immediate intuitions of reason. This is what Descartes attempted to do and inculcated as the thing to be done."

And Mr. Tedhunter ("Conflict of Studies," pp. 24, 25) says:—

"The time devoted to these subjects (Mathematics), viewed as a discipline, is too long. While engaged in these pursuits, a student is really occupied with a symbolical language, which is exquisitely adapted for the class of conceptions it has to represent, but which is so very far removed from the language of common life, that, unless care be taken to guard against the evil, the mathematician is in danger of finding his command over the vernacular diminished in proportion as he becomes familiar with the dialect of abstract science."

These remarks, if they are worth anything, will equally well apply to those branches of Natural Science capable of pure mathematical treatment, and commonly so treated. Mechanics and Hydrostatics, even when taught in an elementary way, are usually identified with some simple algebraical and geometrical processes. The knowledge of even the simpler philosophical instruments used in Physics, such as Atwood's Machine, or Nicholson's Hydrometer, is gained in schools by diagrams and a few plain problems. Everyone is aware that, to trust a schoolboy with the free use of a good instrument, is a guarantee for its quickly getting out of order, and economy dictates keeping him to books and drawings for this part of his education. Generally speaking, therefore, we may assume that whatever tells against pure Mathematics, tells also against these studies. Hence there is just as much relationship between Simple Equations and the actual affairs of commercial life, as between the latter and Greek Iambics,—just so much and no more.

(*To be continued.*)

UNIVERSITY OF BOMBAY, MATRICULATION EXAMINATION, 1878-79.

MONDAY, 18TH NOVEMBER, [10 A.M. TO 1 P.M.]

ENGLISH.

1. Paraphrase, punctuating with care:— **30**

But O, my muse, what numbers wilt thou find
To sing the furious troops in battle joined!

Methinks I hear the drum's tumultuous sound,
The victor's shouts, and dying groans confound,
The dreadful burst of cannon rend the skies,
And all the thunder of the battle rise.
'Twas then great Malbro's mighty soul was proved,
That, in the charging shock of hosts unmoved,
Amidst confusion, horror, and despair,
Examined all the dreadful scenes of war;
In peaceful thought the field of death surveyed,
To fainting squadrons sent the timely aid,
Inspired repulsed battalions to engage,
And taught the doubtful battle where to rage.
So when an angel, by divine command,
With rising tempests shakes a guilty land,
Such as of late o'er pale Britannia passed,
Calm and serene he drives the furious blast,
And, pleased the Almighty's orders to perform,
Rides in the whirlwind, and directs the storm.

2. In a short Essay of about 15 lines, discuss the correctness of the popular maxim, that "we should never speak ill of the dead." 20

3. Paraphrase the following idiomatic expressions in such a way as to show that you fully understand their meaning:— 20

(a) Pray do not tire our patience by continually harping upon the same subject.

(b) The best thing you can do is to pocket the insult.

(c) He felt himself completely knocked up at the close of his long journey.

(d) Though he now carries things with a high hand, the day of reckoning will surely come.

(e) You may take it for granted that what you say is beside the question.

4. Re-write the following dialogue, correcting all the mistakes:— 20

a. I am to go to Poona next month!

b. Is it?

a. Yes! The country presents a beautiful scenery now after it had rained.

b. Had you heard the news?

a. No! what it is?

b. A boat was in harbour with five men and a dog. The five men were drowned except the dog.

a. I am very sad after hearing this.

b. Yes! These men were our fellow-brothers.

a. The approach of monsoon had been anxiously watched this season.

b. Yes, but the rain has been falling since the last twenty days.

5. Parse fully the italicized words in the following sentence :— 10

"*Even* rigid moralists *felt* more inclined to *pity* than to *blame* him, when he *died himself* into a *sponging* house or *drank himself* into a fever."

Explain fully the origin of the form "to write" in each of the following sentences :—

(*a*) I came to write.

(*b*) I love to write.

What form may be substituted for "to write" in the latter case?

6. Form words in "ling," "dom," "ship," "ric," "ry," "er," "ness," "ment," "ard," "ish," "able," "esque," "ous," "ine," mentioning the force of the affix in each case. 10

Show that the forms "interior," "prior," &c., have lost their comparative force. Mention any words of Saxon origin which have the same peculiarity.

7. Distinguish between the use of "much" and "many"; "farther" and "further;" "elder, eldest" and "older, oldest"; "later, latest" and "latter, last"; "each other" and "one another." 10

Mention any distinction in the use of the relative forms "who" and "that," illustrating the distinction by examples; and distinguish between *reflective* and *reciprocal* pronouns.

8. Distinguish the meaning of the following words :— 10

Clever, learned, wise, passionate, impassioned; foolish, ignorant, illiterate; childlike and childish; government, administration, sovereignty.

Trace the connection between the roots and present meanings of promontory, subterfuge, municipality, education, production, deduction, society, consequences, deviating, obvious.

9. Analyse according to the subjoined form :— 10

He was by no means yet reconciled to his own daughter's marrying, though it had been entirely a match of affection, when he was now obliged to part with Miss Taylor too; and from his habit of gentle selfishness, and of being never able to suppose that other people could feel differently from himself, he was very much disposed to think Miss Taylor had done as sad a thing for herself as for them, and would have been a

great deal happier, if she had spent all the rest of her life at Hartfield.

Sentence.	Kind of Sentence.	Subject.	Predicate.	Completion.	Extension.

Distinguish between an iambus, a trochee, and a dactyl. Give examples of each. **10**

What kind of metre is most common in English? Whence has it derived its name?

Scan the following lines, marking the feet and accents:—

With many a weary step and many a groan
Up the high hill he heaves a huge round stone;
The huge round stone, resulting with a bound,
Thunders impetuous down, and smokes along the ground.

GOVERNMENT CENTRAL BOOK DEPÔT.

LIST OF NEW BOOKS AND MAPS RECEIVED INTO THE GOVERNMENT CENTRAL BOOK DEPÔT, BOMBAY, FROM 21ST DECEMBER 1878 TO 20TH JANUARY 1879.

New Editions published.

MARATHI.

	Rs.	a.	p.
Patvardhan's Elementary Geography, Part I. (Description of the Bombay Presidency) Third Edition, 1878 ...	0	1	6

New Books published by the Department.

MARATHI.

Baput—Life of Napoleon Bonaparte. Compiled from original English authors	1	0	0

Fresh supply received from England.

ENGLISH BOOKS.

Weber's History of Indian Literature. Translated from the 2nd German Edition by John Mann, M. A.	2	0	0
Laaries' Copy Book, No. III.....	0	1	4

ENGLISH MAPS.

Johnston's School-room Map of the World coloured and mounted on cloth and rollers, and varnished					6	0	0
Do.	do.	Asia	do.	...	6	0	0
Do.	do.	Europe	do.	...	6	0	0
Do.	do.	India	do.	...	6	0	0

DEPARTMENTAL NOTICES.

Book Sanctioned.

NOTIFICATION.

A second edition (revised) of the History of England, by J. F. Bright, M.A., can now be ordered from the Curator. The History is recommended for High School Libraries.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
15th January 1879.

Printing of Examination Papers at the Central Press.

NOTIFICATION.

The subjoined Government Resolution, No. 61, dated 10th instant, General Department, is published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
16th January 1879.

Printing. No. 61.

GENERAL DEPARTMENT.

Bombay Castle, 10th January 1879.

Memorandum from the Educational Department of the Secretariat, No. 14, dated 6th January 1879—Transferring, for sanction, a letter No. 4227, dated 31st December last, from the Director of Public Instruction, who submits one from the Superintendent, Government Central Press, and requests the general sanction of Government for printing at that Press all examination papers for the Principals of Colleges, and Head Masters of Schools, as well as for the Presidents of Public Service Examination Committees.

RESOLUTION.—Sanctioned.

E. W. RAVENSCROFT,
Chief Secretary to Government.

To the EDUCATIONAL DEPARTMENT of the SECRETARIAT; the DIRECTOR of PUBLIC INSTRUCTION; the SUPERINTENDENT, GOVERNMENT CENTRAL PRESS.

Grant Medical College.

NOTIFICATION.

It is hereby notified that from and after 1st November next, no Student will be admitted into the Grant Medical College unless he shall have passed the Matriculation Examination of the University of Bombay, or of some University recognised by it, with a classical language.

(Signed) H. COOK, M.D.,
Principal, Grant Medical College.

Bombay Grant Medical College,
17th January 1879.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
27th January 1879.

Award of "Mary Carpenter Scholarships."

NOTIFICATION.

The examination for the "Mary Carpenter Scholarships," founded by the National Indian Association of London, was held in Bombay on the 5th December 1878, and the following pupils in Gujarati Girls' Schools in Bombay succeeded in obtaining Scholarships of the value mentioned against their names. The Scholarships are tenable for one year from 1st January 1879.

Name.	Name of School.	Value of Scholarship.
1. Shirimbai Framji Mehta...	Charney Rd. Girls' School ...	Rs. 5
2. Becharbai Rastomji Master.	Do. ...	Rs. 4
3. Dinbai Manikji Nanjivara.	Do. ...	Rs. 3

One Scholarship of the value of Rs. 5 remained unawarded as no candidate was of sufficient merit to deserve it.

T. B. KIRKHAM,
Acting Educational Inspector, C.D.

Poona, Office of the Educational Inspector, C. D.,
4th January 1879.

Purchase of Books for High School Libraries.

No. 4454 of 1878-79.

Poona, Office of the Director of Public Instruction,
17th January 1879.

MEMORANDUM.

From the 1st of April* Head Masters of High Schools can order books for Libraries at discretion, provided that (1) they purchase through the Curator, (2) their indents are countersigned by the Director, (3) Budget grants are not exceeded. Orders for books required from England should be sent in to the Curator in January at the latest, so as to secure the best terms for exchange.

* Orders for 1879-80 can be sent in at once. Catalogues will be ordered out by the Curator; but will not be received for some months.

2. Prize books should be purchased from the Curator's List until further orders.

3. Text books not in the Curator's List can be procured in the same way as Library books.

(Signed) K. M. CHATFIELD,
Director of Public Instruction.

Published for the information of Educational officers in the Central Division.

T. B. KIRKHAM,
Acting Educational Inspector, C. D.

Poona, Office of the Educational Inspector, C. D.,
21st January 1879.

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT FROM THE 16TH DECEMBER TO 15TH JANUARY 1879.

17th December 1878.—Mr. Balaji Hari Kulkarni, F.E.A., is appointed substantive *pro tem.* Fifth Assistant Master, Rajaram High School, Kolhapur.

17th December 1878.—Mr. Sambhu Chandappa Anikhindikar, F.E.A., is appointed substantive *pro tem.* Fourth Assistant Master, Dharwar High School, during the absence of Mr. Kerur, or until further orders.

18th December 1878.—One week's sick leave is granted to Mr. Motichand O. Seth, Second Assistant Master, Broach High School.

26th December 1878.—Two and a half months' leave, on private affairs, is granted to Mr. V. A. Bapat, Fourteenth Assistant Master, Poona High School.

26th December 1878.—Mr. R. J. Godbole, Fifteenth Assistant Master, Poona High School, is appointed Acting Fourteenth Assistant Master in the same School, *vice* Mr. Bapat on leave.

25th *December* 1878.—Mr. Vishnoo Narayen Sathe is appointed Acting Fifteenth Assistant Master, Poona High School, *vice* Mr. Godbole promoted.

26th *December* 1878.—Two and a half months' leave, without pay, is granted to Mr. R. H. Gangaee, Sixth Assistant Master, Ratnagiri High School.

26th *December* 1878.—Mr. R. D. Sethna is permitted to resign his appointment of Fifth Assistant Master, Surat High School, from the 7th January 1879.

27th *December* 1878.—The unexpired portion (from 8th to 21st December 1878, both days inclusive) of the two months' privilege leave granted to Mr. Fatechand Girdhardas, Acting Third Assistant Master, Shikarpur High School, is cancelled.

31st *December* 1878.—Two months' leave on private affairs is granted to Mr. Balajee Ramchandra Bagalkot, Fifth Assistant Master, Dharwar High School.

31st *December* 1878.—Mr. M. S. Apte, B.A., is appointed substantive *pro tem.* Fourth Assistant Master, Belgaum High School.

1st *January* 1879.—Two and a half months' leave on private affairs is granted to Mr. K. S. Rege, Fourth Assistant Master, Ratnagiri High School.

4th *January* 1879.—Mr. D. D. Shukla, B.A., is appointed substantive *pro tem.* Ninth Assistant Master (Marathi side), Elphinstone High School, until further orders.

4th *January* 1879.—Mr. K. J. Sanjana, M. A., is appointed Acting First Assistant Master, Elphinstone High School, (Maratha side,) until further orders.

6th *January* 1879.—Mr. Krishnaji Raghunath Kelkar, Ninth Assistant Master, Poona High School, is appointed Acting Assistant Deputy Educational Inspector, Nasik and Ahmednuggur Sub-Division.

8th *January* 1879.—An extension of leave, without pay, for fifteen days, is granted to Mr. Gopal Anant Bhat, First Assistant Master, Shahapur English School.

8th *January* 1879.—Mr. Fardunji Muncherjee Dastur, M.A., is re-appointed Senior Dakshina Fellow in the Elphinstone College.

8th *January* 1879.—Mr. Kavasji Dadabhai Contractor, M.A., is re-appointed Senior Dakshina Fellow in the Elphinstone College.

8th *January* 1879.—Mr. Wasudeo Gopal Bhandarkar, B.A., is re-appointed Junior Dakshina Fellow in the Elphinstone College.

9th *January* 1879.—Mr. Rungnath Narsinhra Madhalkar, B.A., is appointed Junior Dakshina Fellow in the Elphinstone College.

9th *January* 1879.—Mr. Bhimajee Madhwa Singit is appointed First Assistant Master, Hubli First Grade Anglo-Vernacular School, *vice* Mr. Joshi, transferred to Karwar.

9th *January* 1879.—Mr. Swamirao Makund Wadgaonkar is appointed Second Clerk in the office of the Educational Inspector, Southern Division, *vice* Mr. Velangi, resigned.

9th *January* 1879.—Mr. Sivarudra Madivalliaya Pandit, is appointed substantive *pro tem.* Third Clerk in the office of the Educational Inspector, Southern Division, *vice* Mr. Swamirao, promoted.

9th *January* 1879.—Mr. Wasudeo Pandurang Virkar, 6th Assistant Master, Jagannath Shankarshet First Grade School, Bombay, is appointed 5th Assistant Master in the same School.

10th *January* 1879.—Six months' leave on private affairs is granted to Mr. S. A. Chhatre, substantive *pro tem.* Third Assistant Master (Marathi side), Belgaum High School.

10th *January* 1879.—Mr. Waman Shivram Apte, Junior Dakshina Fellow in the Deccan College, is appointed Senior Dakshina Fellow in the same College.

10th *January* 1879.—Mr. Bhaskar Bhavant Jathar is appointed Junior Dakshina Fellow in the Deccan College.

11th *January* 1879.—Two months' sick leave is granted to Mr. Bhikaji Daji Agashe, Gymnast in the Poona High School.

11th *January* 1879.—Mr. S. H. Vaze is appointed Acting Gymnast in the Poona High School, *vice* Mr. Agashe, on leave.

13th *January* 1879.—Mr. Ramchandra Kashinath Kirloskar is appointed Acting Fifth Assistant Master in the Dharwar High School, *vice* Mr. Bagalkote, on leave.

13th *January* 1879.—Mr. H. M. Page is appointed Assistant to the Professor of Chemistry and Geology, Poona Civil Engineering College.

13th *January* 1879.—Mr. Nanabhai Ardeshar Moos, L.C.E., is appointed Instructor to the First Class in the Poona Civil Engineering College.

13th *January* 1879.—Mr. Manekji Sheriarji Bharucha is appointed Fellow in the Poona Civil Engineering College.

13th *January* 1879.—Mr. Rudrapa Virbasapa Bilgi is appointed Fellow in the Poona Civil Engineering College.

13th *January* 1879.—Mr. Gopal Vishwambhar Gayatonde is re-appointed Fellow in the Poona Civil Engineering College.

13th *January* 1879.—Mr. F. P. Rebeiro is re-appointed Fellow in the Poona Civil Engineering College.

15th *January* 1879.—Six months' leave, on private affairs, is granted to Mr. K. M. Raghavendrarao, First Assistant Master, Karwar English School.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
20th January 1879.

THE

Bombay Educational Record.

No. 3.] MARCH 1, 1879. [Vol. XV.

THE MONTH.

We have received several notes making corrections in various minor particulars in the Matriculation Pass List published in the *Government Gazette*, of which we presented a summary in our last issue. It is obvious, however, that all such corrections should be addressed to the University Registrar.

Mr. Robert Drummond Hamilton, an Uncovenanted Servant, who had to give up his appointment in consequence of total loss of sight whilst in the prime of life, has for some years past issued a beautifully printed and very useful little Almanack by way of obtaining a fund for the education of his children. The issue for 1879 is well worth the cost, Rs. 2, and those who may have that sum to spare for a charitable purpose might do worse than remit it to Mr. Hamilton, Abbotsford College, Bangalore, for a copy of "Hamilton's United Service Almanack."

Mr. Fitch has been lately delivering a course of lectures on "Practical Teaching" at the College of Preceptors. Dealing with the subject of examinations, Mr. Fitch said that there was a feeling everywhere growing up that examinations were carried on to a mischievous extent; but this, he thought, was owing to people forming their impressions of the work of education from what they saw in the newspapers, which contained only the results of examinations. After paying a tribute to the usefulness, in good schools, of periodical examinations, both in general and special subjects, he recommended teachers from time to time to present the pupils with a model answer to some well chosen question, and to discuss it with

them. This would go far to take away the nervousness of candidates at the local and other examinations. Examination in any form was a discipline useful in itself. It enabled us to find out the extent and value of our knowledge. Teachers should keep a note-book, in which to jot down at intervals questions that suggested themselves. The object of an examination paper should not be to display the examiner's knowledge, nor to create an effect, but to get at what the scholar ought to know. It should, therefore, be terse and simple, and should encourage the expression of knowledge. There might be one or two questions in such a paper reserved for superior intelligences so as to keep up a high ideal. The one rule to set before scholars in an examination was "choose which question you can answer best," not "which will pay best." A certain percentage of marks should be reserved to reward style, neatness, &c. Marks should be added up directly in each paper, in order to see whether the aggregate fairly represented the general merit of the paper. Only pretentious ignorance, as shown in guesses and vague generalisations, should be punished with a deduction of marks.—The lecture concluded with some general hints on oral and class questioning.

EDUCATIONAL TESTS are beginning to be applied in England to lower grades than were formerly dreamt of. The War Department has issued a notice at the Royal Arsenal, Woolwich, that no lad shall be put to learn a trade in that establishment without a certificate from the head-schoolmaster that he is up to the sixth standard. The requirements are:—Reading with fluency and expression; writing a short theme or letter, as a test of composition; spelling, grammar, and handwriting; arithmetic, proportion, vulgar and decimal fractions; geography, outlines of geography of the world; history, outlines of the history of England from Henry VIII. to the death of George III. No lad to be placed on the list of candidates for a trade unless he has been employed in the department for twelve months, and is recommended by the manager as a lad of good character and aptitude.

IN our last "Month" we gave an outline of the Scheme for the Preparation and Examination of Teachers, recommended by the Syndicate appointed by the University of Cambridge, to consider the memorial from the College of Preceptors, and other bodies, on this

subject. A similar memorial was addressed at the same time to the University of Oxford, which, we are glad to see, has likewise borne fruit. The Delegacy to whom the subject was referred has just issued a Report recommending in effect:—I. That it be proposed to appoint "a Delegacy for the Examination of Teachers," who shall be empowered to give certificates of teaching on the following conditions:—

a. That the candidates have taught a class in some school other than an elementary school for two terms, or six months at the least. b. That they have passed an examination in such subjects connected with education as shall be prescribed by the Delegacy. c. That they have given such practical proof of their ability in teaching as the delegates may require. d. That they have obtained a degree or a certificate from some suitable examining body. II. That the Delegates be empowered to provide lectures, and that the expense of such lectures be defrayed out of the University chest. The brief report in another column of the meeting of Convocation of the University of London shows that the subject of professional examination of teachers is under consideration there also.

A REMARKABLE COMPETITION in the study of mathematics is now in progress in the pages of the *Monetary Gazette*. The tutor and examiner is the Rev. T. A. Cock, mathematical lecturer at King's College, and professor of mathematics at Queen's College. The competition is divided into two classes, each comprising a course of higher and lower mathematics. Competitors in the senior course are between the ages of fourteen and eighteen, and in the junior course, under fourteen. Professor Cock gives a lecture weekly in the pages of the *Monetary Gazette*, followed by original questions and examples for the competitors to solve, and every week each competitor is credited in the columns of the paper with the marks he has earned. The prizes are of a very important character. The first prize in the senior course will be a free presentation for a year to King's College, or University College, or any College of like standing in the kingdom. The second, third, and other prizes, will consist of books, mathematical instruments, &c. The first prize in the junior course will be a free presentation for one year to King's College school or University College school, or other public school of like standing, and the second and other prizes will take the shape of

books and mathematical instruments. There are forty-six prizes in all, besides a number of certificates of merit. The competition will continue weekly till July, after which the results will be announced in the journal itself.

The *Pall Mall Gazette* gives some account of the last report of the Russian Minister of Education. It appears that the number of elementary schools in the empire, excluding the Caucasus, Finland, and the Baltic provinces, was 25,077. The number of pupils attending these schools was 1,036,851, of whom 856,139 were boys, and only 180,712 girls. There is one school for every 3,070 of the inhabitants, and the proportion of children attending school was 1·3 per cent. "The insufficient number of schools and pupils," says the report, "proves that our schools do not yet exercise any considerable influence over the masses. For this, compulsory education is necessary; it alone can direct public education in the right channel, and give it the importance which it should possess in the eyes of the people as a necessary requirement of life, and the chief foundation of the enlightenment of their ideas both from a moral and an economical point of view." The Minister has since called for reports from all the managers of the elementary schools on the question of compulsory education; but the *Russky Mir* observes that, as out of the 4,500,000 roubles expended on public education, 3,000,000 are supplied by local taxation, the opinions of the communal and district authorities should also be taken on the point. It adds that general enlightenment is not to be obtained from the elementary schools, but from those in which higher branches of learning are taught, and that the better class of peasants usually prefer the latter to the former, even when they have to make extra payments for the privilege of a better education. Unfortunately, there are only about 400 of these schools, half of which are in the towns.

The Oxford Class List of the Final Classical School has issued for the first time for some years, contains no name in the first class.

The name of the Parsee Girl who gained the second Mary Carpenter Scholarship was incorrectly given at page 45 of our last number as "Rivlarbai" which is a Hindu name. The correct Parsee name is "Bachubai."

We publish with this number the fifteenth annual issue of the Directory of the Bombay Educational Department, which is kindly placed at our disposal by the Director of Public Instruction, and also a Classified Contents and Title-page to our last year's numbers constituting our Vol. XIV.

PRACTICAL HINTS ON TEACHING.—II.

Learning to Spell.—The following hints on learning to spell follow up those given last month on teaching the alphabet:—

Spelling is chiefly valuable for the purpose of writing, and it is with this view it should be taught. It may be doubted whether it is of much value as a means of teaching reading. As is well observed by a writer in an American journal of education (The Pennsylvania School Journal), "When taught exclusively from spelling, reading seldom becomes natural, and the pupils frequently stumble all the way through school, calling 'was' *saw*, 'on' *no*, and making many similar mistakes. Spelling should be learned through reading, not reading through spelling; as it deals with the elementary *forms* of words, not with their *sounds* as spoken."

If this is a correct view of the case, the general practice of setting beginners lists of words to spell from memory, if not wrong, is at least open to improvement. The first lessons in spelling, given while the children are learning to read familiar words, should be conducted by *printing* words on the black-board, and taught by *sight* rather than *hearing*, or at least by a combination of both. The following are the early stages of learning to spell:—

1. Let the pupils be exercised by printing words on their slates, copying them from the black-board at first, and subsequently from books.

2. As soon as they can write, let spelling be taught by writing words on their slates. At this stage only should oral spelling be introduced, and then only with reference to the words already learnt or explained, thus causing two organs of sense—the eye and the ear—to take cognizance of the elementary parts of each word, instead of only one, as in the common plan of teaching spelling.

3. When the stage of syllabication has been reached, instead of the ordinary process of dividing such a word as *remember*, thus, r-e (re), m-e-m (mem—remem), b-e-r (ber—remember); teach it thus—pronounce the word to the pupil syllabically, re-mem-ber, and make him repeat it after you in the same way. Then let him spell the syllables separately with a pause between each, and finish by pronouncing the whole word again. Every requirement that diverts the attention of the pupils from the order and arrangement of the letters that form the word, retards rather than aids in learning to spell it.

4. When the pupils have reached the stage of writing with facility, teach spelling entirely by dictation; and let them make a collection of all wrongly spelled words in a note-book, paged alphabetically, so as to form a dictionary of difficulties for easy reference and revision afterwards.

THE UNIVERSITY OF LONDON, AND THE EXAMINATION OF TEACHERS.

At the last meeting of convocation of the University of London, held at the university buildings in Burlington Gardens; *Dr. Storrar*, chairman of convocation, presiding.—*Dr. Carpenter* (registrar) reported that the first examination for the degree of Bachelor of Music was held in December, when the ordinary staff of examiners had the advantage of the services of Dr. Pole and Dr. Steiner. The university matriculation examination now going on had brought up seventy or eighty more students than appeared last January. Among the new candidates were eleven young ladies, and he anticipated a larger number of lady candidates at the summer examinations.—*Mr. P. Magnus* moved;—"That it is desirable that the senate should institute examinations in the theory and practice of education open to graduates of the university." Although he could not entirely agree with the prayer of a petition of the College of Preceptors, presented last year to the senate of the university,* that they would institute degrees on the theory and practice of education, he thought that the time had come to distinguish between the competent and incompetent teacher, between him who had studied educational method, and him who had not. At St. Andrews and Edinburgh professorial chairs of education already existed, where lectures were delivered to students, who were afterwards tested in the knowledge they had gained. The University of Cambridge had recently determined to institute such lectures; and Oxford had the subject under consideration. It was highly desirable that the University of London, to which so many teachers belonged, should not withhold from those teachers the opportunity of gaining the certificates of proficiency which members of their profession who had graduated at the universities would be able to obtain.—*Mr. H. Nesbit* seconded the motion.—*Mr. W. Shaen* suggested that a matter of this importance should be referred to the annual committee, and discussed upon their report in a fuller house. He was entirely in favour of the university taking up this subject; and being, therefore, anxious that action should be taken in the wisest possible way, he moved, as an amendment:—"That it be referred to the annual committee to consider and report on the subject of examinations in the theory and practice of education."—*Mr. R. F. Weymouth* seconded

* See *Record* for last September, page 193.—Ed. B. E. R.

the amendment which was carried.—On the motion of *Mr. A. B. Hopkins* it was resolved that in all cases in which a degree can be taken in more than one branch, candidates who have taken the degree in one branch should be permitted to present themselves in any subsequent year for examination in any other branch or branches.

"THE THEORY OF 'USEFUL' EDUCATION."

(*Concluded from page 40.*)

Mr. Spencer hardly touches on the utility of Mathematics. "No one," he says, "needs to have the value of this division of Abstract Science insisted upon" (p. 16). He indicates that by them estimates are framed, commodities bought and sold, or accounts kept. He means here Commercial Arithmetic. And he goes on to dilate on various works of engineering as illustrative of geometrical truth. But the question is not whether Arithmetic is good for a City clerk, or Geometry for an engineer, about which indeed there will be no dispute, but how far Mathematics can be made the vehicle of "useful" training for the largest number.

It has been already seen how small is the relationship of Mathematics to the lives of the majority of us. We do not ask for a technical education in disguise, but for good discipline, for a means of developing and balancing the judgment, of strengthening the memory, of cultivating taste, of chastening the mind into an attitude of patience, and of inducing that large aptitude for knowledge characteristic of the well-educated man. Many thinkers have given their verdict against Mathematics as "useful" even in this wide sense; but Mr. Spencer, who might have said so much, has said nothing.

Withdrawing from this topic, there now remains to discuss the utility of Natural Science in education.

One of the warmest advocates of a liberal education would have refused Natural Science a place in the schemes of a school. "I have recommended," says Dr. Whewell, writing to the Commission on Public Schools, "that lectures on Natural History, to which I would add Chemistry and Physics, should be given at public schools, not as part of the business of the school, but occasionally, so as to attract and stimulate the more active-minded of the boys, and to help those where they had a turn for such pursuits;" and he goes on to remark that, seeing remarkable men lecture in a remarkable way, will evoke any natural talent in a special line, but considers Natural Science as a basis of education inadmissible.

At first sight we should be inclined to differ in many points from Dr. Whewell. There is nothing in education, which seems capable of immediate relationship with actual life, comparable to Natural Science. The value of scientific modes of thought to a man in active life is extremely great. The student of organic nature, and the man

of the world, have much in common. Both work tentatively; both will fail once, and twice, and yet the third time will conquer; both find the stern wall of essential knowledge, where perplexity stops action; and whether one is endeavouring to solve the problem of all life, and the other is engaged in solving the problem of his own life, they will feel much difficulty, and therefore much sympathy, in common.

We should here be inclined to cry out Εὕρηκαμεν,—the question is answered at last; and if we could turn all our children into original investigators, we should indeed have mastered the difficulty. If we set the young ones to feel their way from *forulæ* to *bacterium*, from *bacterium* to *protococcus*, and so on through early cell-life to the complexities of the full animal organism, we should be on the right track. It is indeed what Professor Clifford, if I understand him rightly, would have us do. He would adopt the policy of the New York boarding-house hero, Major Pawkins,—"Run a moist pen slick through everything and start fresh" in each case. "We may," says he, speaking of teaching Chemistry, "follow Dr. Williamson's method, shew the children how to make Carbonic Acid, and then pour it on a candle and put it out, burn Hydrogen to produce water, and so forth. When a few of the commoner substances are real things to them, whose properties they are familiar with, they may learn to weigh and to measure. Then the law of definite proportions becomes legitimate teaching, and the law of gaseous volumes."—(*Nineteenth Century*, April, 1878.)

From this and other parts of the same article, we infer the author to mean that the child is to take nothing for granted in his beginning to learn science, and that his teacher's authority is to be checked by the child's independent investigation. He is to become a *tabula rasa*, on which may be inscribed the result of his own investigations.

Now among the commonest subjects in elementary Chemistry is Carbon Dioxide. Let Professor Clifford's "child" be set to examine this body by weight and by volume; let him be put to find out the synthesis of water, by weight also, or what is simpler, the volumetric analysis of water, and judge the results. And we might fairly ask what institution is there, what system of education is probable, which will supply a large number of children with the machinery of the investigations in question?

As to Carbon Dioxide, Prof. Roscoe in his well-known Text Book of Chemistry (pp. 89, 90), devotes an intricate diagram, and a lot of printed matter to the mere outlines of the investigation,—one easily conceivable as being carried on for many hours by a fairly skilful hand without a definite analysis of the compound.

There is a very remarkable discrepancy between this enthusiasm for making our children into independent investigators, and the judgment of a practised educator like Mr. Todhunter:—

"Very great credit is due to the person who first imagined the

well-known experiment to illustrate"—the proposition that in vacuo all bodies will fall through equal spaces in equal times,—"but it is not obvious what is the special benefit now gained by seeing a lecturer repeat the process.

"It may be said that a boy takes more interest in the matter by seeing for himself, that is, by working the handle of the air-pump. . . . . The boy would also probably take much more interest in football than in Latin Grammar, but the measure of his interest is not identical with that of the importance of the subjects.

"It may be said that the fact makes a stronger impression on the boy through the medium of his sight—that he believes it more confidently. I say this ought not to be the case." . . .

And Mr. Todhunter concludes that mistrust of the statements in scientific topics, where the truth has been clearly ascertained, is an *à priori* disqualification in the investigator.

So that, while the one prophet would send every boy with a taste for Physiology to the vivisector's trough, to rediscover the circulation of the blood, the other prophet denies that these operations are either investigations or experiments,—they are "repetitions of observations made thousands of times before, whose educational value is more than dubious."

But, granting that experimental science is possibly more adjacent to "useful" education in the main than other subjects, there are *in limine* two very damaging objections to its introduction into elementary education,—(1) its expense; (2) the time occupied without definite progress being made.

1. As to the *expense*. The teaching of Natural Science by experimental methods is not self-supporting. Without endowments, without grants, without drawing nourishment from some copartnery in educational work,—it can never get beyond books, or toricial statements. Unlike other teachers, a lecturer in Experimental Science must have a man to help him—a trained attendant: while the expense of scientific instruments and materials is notorious. Any one acquainted with the space and accommodation required for sixteen or twenty students of Practical Chemistry, will understand what would be required for six hundred: and, given that there is a reasonable liberality in the matter of appurtenances and teachers, he can compute the expense.

It will be a very long time indeed before the British father would consent to bear all the outlay necessary for such teaching, or the British taxpayer allow large subsidies to educational institutions from the national purse. We might soon hear, if experimental teaching were widely adopted, loud sighs for the old times when the boys courted Polhymnia and Euterpe, the less exacting muses, ere they attempted to approach Urania, access to whom can only be made in a shower of gold.

Again, as to the question of *time*. Every one is acquainted with the great consumption of time involved in the study of Chemistry.

in the laboratory,—for instance, an investigation analytically, or synthetically, of the simpler forms of crystallization, and the kindred processes.

It is presumable that laboratory work would not be allowed to become a mere amusement, and that it would be tested by results like other branches of education; that is, it will be sifted periodically by the application of independent examinations.

This is a duty that no examining body has as yet dared to face. The University of London has indeed, within the last two years, established a system of examination in practical work, in its second examinations for scientific degrees; but in the primary or matriculation examinations, to which schoolboys come in large numbers, no such attempt has been made. Doubtless, the eminent men who have a consultative voice in the direction of those examinations, would treat the notion of practical examination of boys of sixteen or eighteen as beyond immediate reach. But, without some such touchstone, we should have no means whatever of putting a value on Professor Clifford's methods.

Yet, without experimental teaching, some branches of Natural Science are worse than useless as factors of education. It is very remarkable how quickly a boy of ready mind, with a slight knowledge of the languages, can master and use with facility the terms of scientific knowledge. Examination papers have made extraordinary revelations how this aptitude has deluded its possessor as to the extent of his knowledge. There is scarcely any examination paper that produces such hopelessly unpromising results as a Chemistry paper; the proportion of nourishing facts to wordy chaff is so intolerably small.

It must therefore be felt that the educational value of Natural Science has yet to be determined. That it may be more showy and specious, and therefore more attractive to the ill-informed, who like sensation in education as well as in everything else, is obvious enough, but it will remain for our successors to, appraise it at its true value.

Personally, I should rejoice to see the difficulties referred to obviated; and, leaving the question of expense to those it may concern, in common with many educators, I should be glad to see any system adopted that would make us hasten more slowly. Having partially laid aside the tardy acquirement of Latin and Greek, we shall have to reconsider the wisdom of knowing how wisely to lose time. Men have complained, ere now, of the hours wasted, as they supposed, in doing a copy of verses; but they may learn to see with equanimity their children waiting for hours, watching a solution, or making a thermometer.

The brain, in either case only partially active, gathers force by slow and steady nourishment. Anything that will retard the processes of education, by prolonging the period of necessary acquirement, will ultimately do good. If once the education of young people

in Physics, by experimental and laboratory practice, could be made part of our school arrangements, the hurry and bustle of early mental training would be superseded.

In the older classical training, boys were left to do by themselves a great deal which is now done for them; and presumably, in the new scientific methods, they will also be left much to themselves. And as formerly we learned, so in the reformed education our sons will learn, by long trial and frequent error, the problem of life,—not how to get a thing done quickly, but how to get it done well.

But meanwhile, what have we to go on with? Natural Science is not yet even on its trial. All adherents to sound training will be glad to see it take a definite and honoured place in our educational schemes. As it is, owing to various reasons, Science gets scurvy treatment. It is usually the nincompoops in a school that get pitchforked over to Experimental Physics and Chemistry. They cannot acquire languages, or Mathematics, or even Sociology, and are left to dabble out their time in looking at a weary round of elementary experiments, or in lounging at a Chemistry table. It is notorious that the comparison between upper boys in a Public School is always in favour of the classical as against the modern side, even where there is competition in the subjects specially studied on the modern side.

Hence Science as an educator has made her experiments *corpore vilissimo*; the sounder stuff she has not reached. When that golden day arrives, we may see whether Mr. Spencer is right in prophesying that Science will reign supreme, and her haughty sisters sink into merited neglect, or whether on being tried in the balances she will be found wanting.

But there is another branch of Science of which the materials are cheap, the laboratories inexpensive, and the teachers numerous—that is, Philology.

It is on this point that Mr. Spencer ventures his most astounding opinion,—"Since it will not be contended that in the acquisition of languages, as ordinarily carried on, the natural relations between words and their meanings are habitually traced, and their laws explained, it must be admitted that they are commonly learned as fortuitous relations." An admission that no one will allow for an instant, at a time when a shilling book on Philology has a large circulation, and Grimm's Law is found in every manual of language.

Philology requires as high acquirements, and as much patience in acquisition as any science commonly studied. The large knowledge of literature necessary in this case is obvious, and its prosecution carries us among—

Quisquid agunt homines—votum, timor, ira, cupido.

To the scientific mind a Greek choral ode is just as beautiful a thing to say the least of it, as a glacier-scratched rock. If the scratches suggest to the geologist the tumbled ruin of an avalanche, the strophe and anti-strophe of the choral ode suggest to the scholar

the great many-coloured theatre, the solemn choric march, the sway of multitudinous applause.

To those of us to whom men are more interesting than rocks or gases (and there always will be such), the highest scientific culture may be sought in how and why men have spoken, and in what circumstances language was born.

Hence, in any scientific schemes, this science must not be omitted. —nay! for vastness of details, for multiplicity, for interest, what other science can compete with it? To "speech-dividing" men, speech must always be a large thing; and did not an incomplete, purblind, if you will, training in what was said and done in Athens and in Rome, produce many of the great scientific men of our time?

Possibly it may turn out, after all, that our forefathers were not so far wrong when they called the man of classical attainment the Scholar, for there is one thing true Mr. Spencer has said in his oft-quoted essay,—"The education of most value for guidance must at the same time be the education of most value for discipline." (p. 42.)

THE QUALIFICATIONS OF THE TEACHER.*

I feel that some apology is necessary for taking up a subject which has been handled before by almost every enquirer in the field of Education, and this the more because it has been touched upon by Mr. Fitch, in the opening lecture of his present course to the students of this College. I feel, however, somewhat excused by the fact that I have, from this place, on various occasions extending now over some seven years, deliberately attempted to approach the citadel of Education, and that the present forms one of a connected series of attacks. I venture to think, too, that the subject itself is so large and so many-sided that, however able and however extensive has been the previous treatment of it, there still remain some stray ears of grain that may fall to the share of a careful gleaner. The subject, as I conceive it, is so vast and so far-reaching in its inferences and relations, that it should be treated by a course, and not a single lecture; I shall therefore not attempt to cover the ground, but simply endeavour to mark out the ground which, in my individual judgment, should be covered. A subject, however, in this condition necessarily labours under serious disadvantage; for a mere outline is apt to leave but a faint impression, and to afford an inadequate idea, while an elaborate picture, without time, cannot fail to show marks of haste, and even to be unintelligible. I must therefore entreat your indulgence, and I ought in fairness to warn those who expect something interesting or amusing, that their expectation stands a fair chance of disappointment; and having thus sheltered myself, I feel some latent satisfaction at the prospect

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* A Paper read before the College of Preceptors by C. H. Lake, Esq., B.A.

of their being bored. The subject leaves me no choice but to address myself to teachers who have had some experience, and who bring to the consideration of the question—for question, remember, it is, not dogma—a reality of interest and of thought. I intend to approach the subject from the positive side; and beginning with simple and known facts near at hand, I shall endeavour to work upwards and outwards to the problem before us. My aim here is, as it has been on the former occasions, to connect Education with Positive Science, and to bring it wholly within the region of the knowable and verifiable, and thus float it on the tidal wave of modern thought.

The qualification of the Teacher obviously, and at the outset, implies a previous question—the work the Teacher has to do. Here I should say something of what I understand by *teach*. The ordinary acceptance of the word in modern English—which theoretically I utterly reject—is that of a transitive verb having a direct and an indirect object. "I teach him Latin," signifies, on this view, that I directly address my action to Latin and indirectly to the pupil. This view is sanctioned, and our fears is stereotyped, by our examinations, which, by the way, remind me of Hood's humorous account of how Little became Moore. He must have been thinking in advance of Teachers, when he said—

"Oh! how they chided with themselves,
That they had let him in;
To see him grow so monstrous sore,
That came so small and thin."

But to return: I prefer the old causative verb, *to learn*. "Learn me thy statutes," signifies influence brought to bear on me causing me to learn, and implies not an affection of me, but an affection in me—a movement from within outwards. The fundamental and irreconcilable difference here suggested will become perhaps more apparent as we proceed. The idea was elaborated and insisted upon with great earnestness and great skill by my late lamented friend, Professor Payne, and he derived it, as he himself said, from Jacotot. It is common to all good Teachers—no sound Teacher ignores it, none who ignore it are sound Teachers. I must say further that I mean by a Teacher, an Educator; and therefore it behoves me to add one word as to what I imply by Education. Some years ago I drew up a definition of Education, which I submitted to the late John Stuart Mill, who, with that warm interest he showed towards every effort to improve his fellows, kindly criticised it at some length; as the result of his criticism and further thought, I occupied an entire lecture of the series to which I have referred, in developing a definition which I thought would bear the strain of the Socratic test. It would, however, be too cumbrous for our present purpose, for which perhaps the following will suffice; it has at least the merit of brevity—"Education is the art of the formation of character." Art, however, implies Science, and so the Art of Education

must have a Science of Education at its back. "Art," says Mill, "necessarily supposes knowledge; Art in any but its infant state presupposes scientific knowledge." It will be doing the Art of Education no injustice to say that it is in an infant state, and it will be paying it a delicate compliment to suppose that this arises from intense sympathy with childhood. I venture, however, with profound admiration for this sentiment, and by an exercise of imagination, to regard Education this evening as moving with the step of manhood—as engaged in the formation of character, on scientific principles.

Let us now for the present leave the Teacher, and fix our gaze steadily on the Child. The Child in fact, as my idea of *teach* implies, is the central figure of the drama, or comedy, or tragedy, or farce—whichever it is to be—of Education. Now the first idea we get of the Child, merely gazing at him, is like a good many other first ideas, a false one—we regard him as a being by himself, as a unit, and as an independent unity. But he is not merely a unit, as we shall presently see, he is not an independent unit, as we must see at once. Before, however, we get to his dependence and relativity, we must be struck by a very important fact—his growth. We can hardly fail to be struck by it. Even the Parent, who generally knows as little about the Child as anyone can,—often less than the Schoolmaster even—notices this, and calls in the tailor and the shoemaker to rejoice with him. But the full significance of the fact, the triumvirate do not understand; nor is it always "understanded of" that other cobbler, the Teacher, who is so fearful of going beyond his last. In truth, the science of growth is not easy to comprehend or exhaust, nor more easy to apply. To act as if we knew *growth* "presupposes," as Mill says, "scientific knowledge." The fact of growth, whatever knowledge it presupposes, forces on the question, "What causes growth?" The answer doubtless is—a certain inherent force, and certain external and favourable circumstances. Here, then, we find ourselves in contact with *relativity* and *dependence*. The Child is not an independent unit, but depends for his continued existence and development on external surrounding circumstances. Not only do the surrounding circumstances act on the Child, he re-acts on them. We have thus four factors—(i.) *the child*, a product and a force, or resultant of forces; (ii.) *environment*, a product and a force, or rather products and resultants of forces; (iii.) *growth*, a force; (iv.) *interaction*, forces. So that, you see, the Teacher is a living and intelligent agent (this is but an hypothesis, remember) dealing with actual products or operative forces. We will consider these a little more in detail.

The child's *environment* consists of every external object that acts upon him, and is in turn re-acted on by him—teachers, parents, companions; air, sunshine, showers; materials, motion, mind. Now, this is but a halting classification: cannot we classify more strictly?

for classification helps us to understand, and to know, and to use. The first and most obvious division will be into *animate* and *inanimate*; and this is an important distinction to the teacher, because these classes vary considerably in relation to *inter-action*. The child is far more influenced by what is animate than by what is inanimate—a fundamental truth often lost sight of in practice. We take him from chasing the butterfly,—and how he does enjoy it we can see, it makes one glad to see, even more glad than perhaps it does the butterfly,—and we put him to grub roots, Latin roots,—and how he does not enjoy it, that too we can see. With the marches and countermarches of Cæsar he has no sympathy; for he does not, except now and again through reflection from an able Teacher, realise the movement; but the story of Phædrus, of the old woman pulling out the man's black hair, and the young woman his grey hair, to improve his appearance, he enjoys; he enjoys the joke, he is decidedly partial to fun, boisterous if he can get it; the cat too moving about with her dainty tread, setting the world by the ears, that he enjoys—more perhaps than he will later. Next to actual movement, there is pleasure to him in hearing of movement and imagining it. We are very jealous—perhaps too jealous—of this shortlived enjoyment of childhood disporting in mere motion; it is luxurious; and so we take him and flout him with actions that "pass on"—only they don't,—and we give him "objects" of disgust. I cannot but think it is a great responsibility to take a child from his likes and infinite longings, because we are stronger, to fit him, as we call it, for his future life; surely this hard imprisonment should be amply justified! The *animate environment*, then, more quickly and easily tends to mould the child's character than the *inanimate*, and therefore more readily lends itself to the Teacher's purpose. The *inanimate environment* is, as it were, solid; the *animate*, fluid—the difference is one of rigidity. The child that travels and visits and mixes with other children and men is more malleable in the Teacher's hands, than the child who lives with Nature, and one or two companions—the child of the rich than that of the poor—other things being equal. The Teacher, too, can by his art more easily shift and vary the animate surroundings. These, further, by their higher vital constitution, imply greater influence. Remember that very organism, from the sponge to man, is a combination and sum total of forces in tendency, and therefore of influence capable of action and reaction and therefore a tool in the Teacher's hand. A practical and most mischievous example of the ignoring and setting aside of this truth, is to be found in the morbid demand for books and apparatus, in the place of rather than aids to the living Teacher. It is the Teacher (and it cannot be too often repeated) and not books that moulds the pupil. Change your Teacher and you change your pupil. Even the Parent understands this when he will have his son go to a Public School, because there is life in it. But, as Mr. John Morley says of George III., "there is nothing more fatal, either in private life or in

the affairs of state, than for an incompetent man to grasp a principle of action that is too big for him." "Such," he adds, was the case with this wretched sovereign." Such, it may be added, is the case with the conventional British Parent; he demands life for his child, but he never gets to understand what life he confers,—the idea is too big for him.

Another important division of the *environment* is into—(1) *object*, that is, products; and (2) *forces* or force become static and force in action, and therefore immediately operative. The heat of the sun is operating motion, the heat in coal is potential motion; so a square object and a round object contain the possibility of knowledge and intellectual action, but the child may have seen hundreds of such objects and not have got the knowledge or felt the life; but when Fröbel, the Teacher, puts them side by side, he introduces a force, and the latent geometrical faculty in the child's mind is addressed, and the intellectual wedlock—to use the Socratic figure—gives birth to the idea. The *environment*, for the most part, is *object*. The subtlest influence brought to bear on the child, will be found, on close scrutiny, to be a series of things, however minute and impalpable, that actually knock against and cause vibration in his framework and being. The stroke of the cane, the odour of the rose, the motion of the voice, the softest caress, the faintest desire, are forces working through and by means of objects; the difference is one of degree, not kind. Notice the *voice*—speak harshly to the timid child, and the rap you give his nerves deadens sensation; speak quietly to the noisy one, and you set on a new intellectual train and perhaps awaken a moral consciousness. So, too, in considering the *child* himself, we shall see that any and every motion of his body, from the distortion of excruciating pain to the lowest whisper of conscience, is a vibration of material particles; so that, when the passage is bridged over from the *child* to the *environment* there is a continuous stream of material particles, whose wave and motion may some day, for aught we know, come within the sphere of mathematics. The Teacher of Botany can make a daisy vibrate through the eye on the child's brain; and by that daisy—product of unnumbered ages—connect the child with the daisy's Creator. Surely a marvellous power this, and sort of priesthood! Can the book supply its place?

Thus far we have classified *environment* as

(*a*) animate.	(*b*) inanimate.
(*a*) *object*.	(*β*) force.

The division is not a logical one, for what is *object* may be animate or inanimate, and either in the Teacher's hands becomes a *force*. These divisions assume the Teacher looking at his subject from different stand-points, and these different aspects enable him to survey and measure his means. It is only by a complete and accurate knowledge and estimate of his means that he can hope to

use them for his purpose, which is to bring, consciously and intentionally, this *environment* to bear upon the child, or at least such part of the child as more readily lends itself to his aid. That part of the *environment* does more readily assist the Teacher, than the rest—suggests another division, which I will call

(i.) static. (ii.) dynamic.

Time will not permit our entering at length into this consideration, but I will briefly indicate by an example what I mean. As regards conduct, my own practice is, instead of allowing those who have superintendence of the pupils to give punishments, I require matters really needing attention to be reported as *facts*; these facts are collected, forming a record of the boy's life and character at school, and once a week they are reviewed by me and dealt with as I deem best. The facts, I should observe, are real facts, not opinions; they are open to the boy's inspection and subject to his appeal in case of error, and he appeals knowing that he is dealing with facts. He is condemned by facts, not by me. The facts thus recorded are—as facts always will be—most instructive. On such a day, for example, A. was late in the morning, B. was late also on the same day, nor is this the first coincidence of the kind; A. and B. are close friends, sleep in the same room, in adjoining beds, and are otherwise connected in ways known to me. I perceive that A. is being influenced, and influenced in the wrong direction, by B. I move A. and place him near C, so that the *environment*, during that important interval from his going upstairs to his going to sleep, works for me instead of against me, and I find that A. improves not only in early rising, but in *tone*, which spreads over his work generally. Such *environment*, I call *dynamical environment*, easily converted into *force*. On the subject of *environment* I would refer, as I shall again later, to a valuable book to the Teacher which I had not seen till after I had conceived and partly written this lecture—I mean Mr. Francis Galton's "English Men of Science."

(To be continued)

GOVERNMENT CENTRAL BOOK DEPÔT.

List of New Books received into the Government Central Book Depôt, Bombay, from 21st Jan. to 20th Feb. 1879.

New editions of the following books have been published:

MARATHI.	Rs.	a.	p.
Godbole's Short History of Maharashtra, 2nd Edition, revised, 1878	0	3	0
Oke's Short History of India, 5th Edition, revised and considerably enlarged, 1879	0	4	0
Chhatre's Treatise on Arithmetic in Theory and Practice, 16th Edition, 1879	0	10	0
Departmental Third Book, 6th Stereotyped Edition, 1878	0	5	6

ENGLISH.

Howard's Third Book, New issue, 1879	0	8	0

SANSKRIT.

Márgopadeshiká—or Bhandarkar's 1st Book of Sanskrit, translated into Marathi by Vinayek Narayan Sastri, 2nd Edition, 1878	0	12	0

New works published by the Department.

MARATHI.

Oke's Itihása Taranginí—or Readings in Universal History, 1878	1	4	0

Fresh supply of the following books has been received.

GUJARATI.

Navalaram's Vyutpatti patha; or a Manual of Gujarati Etymology, 4th Edition, 1878	0	10	0

ENGLISH.

Athill's Clinical Lectures on Diseases Peculiar to Women, 5th Edition, revised and enlarged, 1878	3	0	0
Bryant's Practice of Surgery, 2 Vols. 3rd Edition, revised and enlarged, 1879	14	0	0
Ogilvie's Student's English Dictionary, Etymological, Pronouncing, and Explanatory, 1878	3	12	0

Government Publications for sale.

ENGLISH.

Manu's Institutes of Hindu Law, by Sir William Jones, republished by Jogendranath Ghose, in 3 Vols.	15	0	0

DEPARTMENTAL NOTICES.

Communication to the public by Government Servants of information in their official possession.

NOTIFICATION.

The subjoined Government Resolution, General Department, No. 155, dated 22nd January 1879, is published for the information of Educational officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
1st February 1879.

Official Information. No. 155.

GENERAL DEPARTMENT.

Bombay Castle, 22nd January 1879.

Letter from the Government of India, Home Department (Public), No. 3-c.s., dated 16th December 1878—Enclosing copy of the following Resolution No. 1-c.s. of the same date, on the subject of communicating to the public information which has come

into the possession of a Government servant in his official capacity; and requesting that the Resolution may not be published in the *Gazette*, but that particular care may be taken that all the officials serving under the orders of this Government may have full knowledge of these instructions:—

No. 1,CH.

Extract from the Proceedings of the Government of India in the Home Department (Public) under date Camp Lahore, the 16th December, 1878.

Resolution.—His Excellency the Viceroy and Governor General desires to remind all Officers of the Government, that information received by them in their official capacity, whether from official sources or otherwise, which is not from its nature obviously intended to be made public, cannot be treated as if it were at their personal disposal.

The Governor General does not think it necessary to issue any general order entirely prohibiting the disclosure, without special authority, of any information received officially. In such matters, much must necessarily be left to the discretion and intelligence of officers holding places of trust, and in charge of duties more or less important. But His Excellency would impress upon all officers the serious responsibility involved in the exercise of this discretion. Whenever there is any room for doubt as to the right course to pursue, the orders of superior authority should be obtained before information regarding public affairs is communicated to any one not officially entitled to receive it.

His Excellency the Viceroy and Governor General has reason to believe that sufficient attention has not upon all occasions been given to the principles which should guide the conduct of public officers in these matters, and which are especially applicable to the present time, when much important business is passing through the public offices. And His Excellency trusts that these principles may, in future, be clearly apprehended and observed.

Order.—Ordered that a copy of this Resolution be circulated to all Departments of the Government of India and to Local Governments and Administrations, for information and guidance.

A. C. Lyall,
Secretary to the Government of India,
with the Governor General.

Resolution.—Copy of the Resolution to be forwarded to all Departments of the Secretariat, to all Commissioners and Officers serving under the different branches of the Administration, for information and guidance.

R. W. Ravenscroft,
Chief Secretary to Government.

To all Departments of the Secretariat; all Heads of Offices under the Several Departments.

Returns of Officers 55 years of age to be made to the Director of Public Instruction, and not to the Accountant General.

NOTIFICATION.

The subjoined Government Resolution, Educational Department, No. 125, dated 31st January 1879, is published for the information and guidance of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
5th February 1879.

No. 125.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 31st January 1879.

Letter from the Accountant General, No. P.-13796, dated 21st December 1878—Forwarding, agreeably to Section 56, Rule 2 of the Civil Pension Code, Third Edition, and for such action as Government may see fit to take, a letter from the Deputy Inspector, Sátára, S. D., who forwards a statement, and requests sanction to the retention of an officer under him, named Nilkant R. Chitnis, School Master, Tásgaon, No. 3, who has attained the age of 55 years.

Report by the Director of Public Instruction, No. 4504, dated 21st January 1879—Stating, with reference to this Department Endorsement, No. 1598 of 1878, that the case of Mr. Nilkant R. Chitnis will be noticed in the general return, which will be submitted to Government shortly; and that it seems to be a waste of time and trouble for subordinate officers to submit returns to the Accountant General.

RESOLUTION.—The Director should order the subordinate officers to discontinue such returns to the Accountant General.

(Signed) C. GOKHE,
Secretary to Government.

To the DIRECTOR of PUBLIC INSTRUCTION; the ACCOUNTANT GENERAL, BOMBAY.

Requests for patronage of works published by Government Servants to be made through Local Governments.

NOTIFICATION.

The subjoined Government Resolution No. 166, dated 11th instant, Educational Department, with accompaniment, is published for the information and guidance of Educational Officers.

By order of the Director of Public Instruction,

JOHN BOCARRO,
Head Assistant.

Poona, Office of the Director of Public Instruction,
18*th February* 1879.

No. 166.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 11th February 1879.

Memorandum from the Government of India, Home Department, (Public), No. 10—233, dated 30th January 1879—Forwarding, for information and guidance, copy of a despatch from Her Majesty's Secretary of State for India, directing that servants of the Government in India soliciting his patronage for works published by them in India, should prefer their requests through the Government under which they are serving.

RESOLUTION.—Copy should be forwarded to the Director of Public Instruction for information and communication to the officers under him.

2. Copies should also be forwarded to all Departments for communication to officers under them.

C. GOKHE,
Secretary to Government.

To the DIRECTOR of PUBLIC INSTRUCTION, all DEPARTMENTS of the SECRETARIAT.

No. 89 (Statistics and Commerce—Geographical), dated India Office, London, the 19th December 1878.

From—Her Majesty's SECRETARY OF STATE for India.

To—His Excellency the Right Honourable the GOVERNOR GENERAL of India in Council.

I transmit for the information of your Excellency a copy of a despatch* addressed to the Government of Madras regarding the patronage by the Secretary of State of a map published by a servant of Government in Madras.

* No. 12, dated the 19th December 1878.

No. 12 (Statistics and Commerce—Geographical), dated India Office, London, the 19th December 1878.

From—Her Majesty's SECRETARY OF STATE for India.

To—His Grace the GOVERNOR of Madras in Council.

Mr. J. W. JACKSON, the Lithographer in the Government Lithographic Department, has forwarded to me a copy of the second edition of his Map of Madras in book form.

2. Assuming that you have permitted him to sell this work on his own account, I request that he may be paid the sum of Rs. 11 for this map, and also Rs. 6 for a second copy, in sheets coloured, with which I desire to be supplied.

3. It would be more convenient that servants of the Government in India soliciting the patronage of the Secretary of State for works published by them in India should prefer their requests through the Government under which they are serving.

No. 44 (Surveys), dated Fort William, the 21st January 1879.

Endorsed by the Department of Revenue, Agriculture and Commerce.

Copy forwarded to the Home Department for information.

No. 10—223.

Copy forwarded to the Local Governments and Administrations, and to Officers subordinate to this Department for information and guidance.

By order of the Governor General of India in Council.

HOME DEPARTMENT, PUBLIC, *Fort William, the 30th January* 1879. } C. E. BUCKLAND. Offg. Under Secy. to the Govt. of India.

To the GOVERNMENT of BOMBAY.

Books Sanctioned.

NOTICE.

The following books, which are sanctioned for Schools, can be procured through the Curator, Government Central Book Depôt :—

"An easy Introduction to the History of India", by E. Roper Lethbridge (MacMillan & Co.)

"Brief History of England." (The Royal School Series, T. Nelson & Sons.)

By order of the Director of Public Instruction.

JOHN BOCARRO,
Head Assistant.

Poona, Office of the Director of Public Instruction,
27th February 1879.

Reports on Entrance Examinations.

NOTIFICATION.

The Director of Public Instruction having ordered that Principals and Head Masters of High Schools are to report the results of their entrance examinations direct to himself, sending at the same time a copy of the report, and a nominal list of the boys admitted, to the Educational Inspector, the following rule on the same subject is now prescribed for the guidance of Head Masters of other than High Schools :—

Rule. Head Masters of Anglo-Vernacular and other schools, which hold periodical entrance examinations for the purpose of admitting boys, are to make a report of the results of each examination to the Educational Inspector, sending at the same time a nominal list of the boys admitted, with the name of the school which sends each boy up.

2. The nominal lists will be forwarded to the Deputy Educational Inspectors who will give credit, in calculating capitation and proficiency allowances, for all *bond fide* pupils of a school who have

passed an entrance examination, and been admitted to a school of a higher grade.

T. B. KIRKHAM,
Acting Educational Inspector, C.D.

Office of the Educational Inspector, C.D.,
Poona, 27th February 1879.

Public Service Certificate Examinations, and Revised Standards in History and Geography.

NOTIFICATION.

With reference to the Notification published at page 121 of Part II. of the *Government Gazette* of the year 1879, candidates for the 1st Grade Public Service Certificate Examination are informed that the Examination in History and Geography will be conducted according to the revised standards printed in *Government Gazette* of 11th June 1878, Part I., page 463.

E. GILES,
Acting Educational Inspector, N.D.

Office of Educational Inspector, N.D., Ahmedabad,
28th February 1879.

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT FROM THE 16TH JANUARY TO 15TH FEBRUARY 1879.

16*th January* 1879.—The unexpired portion (5 days) of the sick leave granted to Mr. Laxmanrao S. Kolatkar, First Assistant Master, Kolhapur High School, is cancelled.

18*th January* 1879.—Two months' privilege leave is granted to Mr. Narayan Bandaji Wadake, Drawing Master, Dharwar Training College.

18*th January* 1879—An extension of two months' sick leave is granted to Mr. N. P. Datar, First Assistant Master, First Grade Anglo-Vernacular School at Dharwar.

23*rd January* 1879.—Three months' privilege leave is granted to Mr. Lakshuman Vishnoo, Acting First Assistant Master, Shikarpur High School.

24*th January* 1879.—Mr. Haripad Mitra is appointed Acting 9th Assistant Master, Poona High School.

24*th January* 1879.—Fifteen months' leave, without pay, is granted to Mr. K. G. Joshi, 9th Assistant Master, Satara High School.

25*th January* 1879.—Mr. Paragji Valabhram Naik, substantive *pro tem.* First Assistant Master, Haripura Branch School, is appointed substantive *pro tem.* First Assistant Master, Ahmedabad Branch School, No. II.

28*th January* 1879.—Mr. Ramprasad K. Pande, substantive *pro tem.* 4th Assistant Master (Marathi Side), Belgaum High School,

is appointed substantive *pro tem.* Third Assistant Master, in the same school, until further orders.

28*th January* 1879.—Mr. Hari Vithal Kelkar, substantive *pro tem.* Fifth Assistant Master (Marathi Side), Belgaum High School, is appointed substantive *pro tem.* 4th Assistant in the same school, until further orders.

28*th January* 1879.—Mr. Laxman Ganesh Dandekar is appointed Acting Fifth Assistant Master (Marathi Side), Belgaum High School.

31*st January* 1879.—Mr. Lallbhai Rupram, Assistant Deputy Educational Inspector, Panch Mahals and Rewakanta, is permitted to resign his appointment from the 1st February 1879.

31*st January* 1879.—Mr. Gulabbhai Gopalji Naik, First Assistant Master Branch School, No. II., Surat, is appointed substantive *pro tem.* Assistant Deputy Educational Inspector, Panch Mahals and Rewakanta, *vice* Mr. Lallbhai Rupram, resigned.

5*th February* 1879.—Mr. Krishnalal Govindas Mehcta is confirmed in his post of substantive Deputy Educational Inspector, Prant Jhalawad.

5*th February* 1879.—Mr. K. K. Desai, B.A., substantive *pro tem.* Third Assistant Master, Nariad High School, is appointed substantive *pro tem.* Second Assistant in the same School.

5*th February* 1879.—Mr. R. D. Patel, Head Master, Kaira English School, is appointed substantive *pro tem.* Fifth Assistant, Surat High School.

5*th February* 1879.—Mr. Mansukram Narsidas, Second Assistant, Nariad High School, is appointed substantive *pro tem.* Head Master, Kaira English School.

5*th February* 1879.—Mr. Ishwarlal Vandrawandas, late Head Master Talukdari School, is appointed substantive *pro tem.* Third Assistant Master, Nariad High School.

11*th February* 1879.—A fortnight's sick leave is granted to Mr. Ratanram Jayanand Vakil, Acting Third Assistant Master (Gujarathi Side), Elphinstone High School.

11*th February* 1879.—Mr. Ratiram Durgaram Dave, B.A., is appointed Acting Third Assistant Master (Gujarathi Side), Elphinstone High School, *vice* Mr. Vakil, on leave.

13*th February* 1879.—Mr. M. S. Apte, B.A., is appointed substantive *pro tem.* Third Assistant Master, Belgaum High School.

13*th February* 1879.—Mr. Ramprasad is appointed substantive *pro tem.* Fourth Assistant Master, Belgaum High School.

15*th February* 1879.—One year's furlough is granted (in place of six months' leave on private affairs) to Mr. K. M. Raghvendrarao, First Assistant, Karwar English School.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
22nd February 1879.

SUPPLEMENT

TO THE

Bombay Educational Record,

MARCH 1879,

BEING

THE DIRECTORY

OF THE

BOMBAY EDUCATIONAL DEPARTMENT FOR 1878-79.

FIFTEENTH ISSUE.

THE

Bombay Educational Record.

No. 4.] APRIL 1, 1879. [Vol. XV.

THE MONTH.

We understand that a completely revised set of forms and educational statistical returns on a uniform plan for the whole of India will shortly be introduced. The matter has been under consideration for some time, and the new forms and definitions have been the subject of considerable correspondence between the various local Governments and the Government of India. When once in use it is to be hoped that real comparisons between the progress of the various parts of India will be possible. It may be noted that Bombay was the first in India to introduce "standards" and thus give a definiteness to her statistics which has only of late years been approached in other provinces.

The London University has admitted Sanskrit and Arabic into the list of languages for Matriculation. The languages necessary now stand thus:—1st, Latin; 2nd, any two of the following: Greek, French, German, and either Sanskrit or Arabic. This change will meet the case of Indian candidates who desire to graduate in the Medical or Science faculties in which a knowledge of Greek is not required.

Some changes have recently been made in connection with the Gilchrist Scholarship examinations. The Senate of the London University having now admitted Sanskrit and Arabic as alternative subjects with Greek and German for the matriculation examination on which the Gilchrist competition is modelled, the Gilchrist trustees have decided that this shall henceforth be the examination by which the Indian scholarships shall be awarded, as it has hitherto been in the case of the Colonial scholarships. Two languages,

therefore (one of which may be either Sanskrit or Arabic) must be brought up in addition to Latin, and it is thought that candidates will have no difficulty in obtaining instruction in French, though it is not taught in the Presidency Colleges. As those who pass this examination will be prepared, if they obtain the scholarship, to go to England at once to enter upon the course of study for a degree in one of the Faculties of the University instead of requiring twelve or eighteen months for qualifying themselves to pass the matriculation examination, the trustees have determined to shorten the tenure of the Indian scholarships from five to four years. They will still be held longer than the Colonial scholarships which are limited to three years, and the trustees are prepared to favourably consider the case of any Indian scholar, who, having taken his Bachelor's degree with honors, is desirous of obtaining an additional year for the purpose of proceeding to the degree of Master or Doctor. In two cases, they have already granted this privilege.

The Gilchrist Trustees are certainly doing splendid service with their funds. In addition to their numerous Indian and Colonial scholarships they have just enabled the committee of the British and Foreign School Society to make arrangements for a course of scientific lectures of an advanced character for the benefit of the students in residence at the Society's training colleges, and for the teachers of the south of London generally, the subject being "Geology in its Relations to Physiography." The first lecture of the series was given lately in the large hall of the Borough Road Training College, by Dr. P. Martin Duncan, F.R.S., ex-President of the Geological Society. There could be no more judicious expenditure than in stimulating the teacher.

His Excellency Lord Lytton has contributed £ 100 towards the proposed Indian Institute at Oxford.

In a speech delivered at the annual meeting in Calcutta of the Scottish Ladies' Association, Sir Alexander Arbuthnot, who presided, thus contrasted the progress of female education in Bengal and in Madras: "I find that in this vast province of Bengal, out of a population of 66 millions of people, while the number of pupils under instruction amounted to 641,400, out of that number only 21,587

were girls. The state of things in this respect is a little less unfavorable in my old Presidency of Madras. There I find, that out of a population of 31 millions, while the total number of children under instruction is 281,948, the number of girls taught is 28,151. In Bengal, thus, the proportion of girls to boys is rather less than 4 per cent., while in Madras the proportion is about 10 per cent." Bombay, we may add, lies between Madras and Bengal in this respect, the total number under instruction being 248,000 and the number of girls being 13,000, or rather better than 5 per cent.

Mr. Talbots Wheeler has placed in the hands of Messrs. Macmillan & Co., the "History of India," on which he has long been engaged. The book will, the *Academy* says, be in a single crown octavo volume, with appropriate maps.

We would draw the attention of our readers to a really admirable School Atlas for Indian Schools published by Messrs. Rose & Co., of the Musical Depôt, Rampart Row, Bombay. As is but right in such an Atlas India is very fully illustrated in it, each presidency and chief division having a map to itself. For precision of contour and clearness of naming we have seldom seen the equals of these maps, and we trust the Atlas will soon be as well known in our schools as it deserves to be.

The Kinder Garten system is to be introduced into the Ottawa public schools, Canada.

There are at present in France 20,000 communal school libraries, which own some 2,000,000 books in all. They lent out last year no fewer than 1,350,000 books. The Minister of Public Instruction proposes to ask the Chamber of Deputies to grant an additional credit for the maintenance of these libraries, and to enable new ones to be opened.

Schools containing large classes and which use the Government form of Class Register, Schedule D, a form our readers will remember numbered for 36 pupils, may not perhaps be aware that an "inner sheet," numbered 37 to 72, may be had at the Government Central Press. The inner sheet is gummed into the register and it is then ready for 72 pupils.

THE FLORENCE COMPETITION.

As we were the first in India to make known the conditions of the competition instituted by the Committee of the Fourth International Congress of Orientalists which we did in detail in our issue of April 1877, we felt peculiar pleasure in the announcement lately made that no less than two out of four competitors thought worthy to divide the prize of 5,000 francs between them were Bombay Orientalists. The first prize was carried off by Dr. Zimmer, the second by Mr. Mahadeo Moreshwar Kunté, the Head Master of Poona High School and editor of the "Shaddarshana-Chintanika," and the third and fourth shares were awarded to Dr. Gerson Da Cunha, a prominent member of the Bombay Branch of the Royal Asiatic Society, and Mr. Pramatha N. Bhose, a Calcutta Orientalist. The following translation of a letter received from Professor Angelo De Gubernatis, of Florence, together with the remarks of the board of examiners on Mr. Kunté's essay, will be read with interest. We presume that the various essays on "The Vicissitudes of Aryan Civilization in India"—the subject of the competition—will sooner or later be published in a permanent form.

(*Literal Translation.*)

HONOURED SIR,

I hope that the telegraph has already conveyed to you the news that the prize of 5,000 francs has been divided between four competitors, Dr. Zimmer has received 2,500 francs. You, Sir, have received 1,500 francs. Pramatha N. Bose and Dr. Gerson Da Cunha have received 500 francs each. In congratulating you sincerely on the triumph which you have achieved at the Congress of Florence, permit me to send you the statement of the Congress, and beg of you at the same time to tell me in what way you would prefer to receive the money and the manuscript. I shall be very much obliged if you will send me your photograph in return for the one I offer you with my sincere congratulations and the expression of my most ardent feelings.

Yours truly,

ANGELO DE GUBERNATIS.

Florence Street
Silvio Pellico
No. 1.

(*Extract from the report of the Fourth International Congress of Orientalists*).

"The author, who is certainly a Hindu, enters with much boldness but at the same time with much energy of intellect and soul into the domains of European Science, and passes a judgment on different subjects with a security which though generally well based in some cases betrays a want of sufficient evidence. But the erudition is vast and of the first quality, especially in what concerns the literature of India."

EDUCATION AND RECREATION.

A course of drawing-room lectures has been given in London in connection with the National Health Society. The course was brought to a conclusion by a lecture by Mr. George Romanes on the "Philosophy of Recreation." He said that recreation meant the forming anew of our enfeebled energies. It was while girls were at school that the taking of daily exercise was especially important. He should like to see all girls' schools regarded not simply as places of education, but of recreation; and he did not think the two were incompatible. Far more permanent beneficial work would be done after leaving school if more time were given to play and recreation during school days. It was desirable that every ladies' school should be provided with a good playground, where healthy games could be indulged in; and in crowded localities, if a suitable one could not be obtained for each school, several schools might combine together for securing that object. As regarded mental recreation, he should recommend less work. A little knowledge, well acquired, was better than confused knowledge of many subjects. School girls ought not to be encouraged, for the mere purpose of obtaining prizes, however much they might be coveted, to work beyond their strength. It was important to have width of culture; and, where special aptitude was shown, special training was most desirable. The object of education ought to be to encourage effort. The system of writing impositions was to be deprecated, and was calculated to lead to the exhaustion of mental and nervous energy, as was also the habit of imprisoning children during play time. He thought that means of atoning for trifling offences, and the proper securing of discipline, might be secured without resort to such modes of punishment. What should be aimed at was to secure a sound working mind in a sound working body.

THE COST OF TOWN SCHOOLS AND SCHOOLING IN PRUSSIA.

From a statistical return recently issued, it appears that there are sixty Prussian cities and towns with a population of over 20,000. In sixteen only is instruction given in the public elementary schools, free of charge, to the children. These are Berlin, Breslau, Königsberg, Dantzig, Altona, Elberfeld, Crefeld, Posen, Erfurt, Kiel, Flensburg, München-Gladbach, Remscheid, Königsütte, Hagen, and Nordhausen. In several other towns (*e.g.* Hanover, Cottbus, Stargard,) fees are charged in some of the public elementary schools, while there are free schools to children of parents "without means." For this reason the latter class of schools have come to be denominated "poor schools." In other cities and towns, fixed school fees are exacted alike from all children; while in others, again, fees are required,

indeed, from all, but according to a sliding scale, corresponding to the parents' assessment to the direct taxes, and varying between three and eighteen marks a year. The entire amount received under the head of school fees or special educational charges in 108 communes, with a population exceeding 10,000, which exact school money in some shape, does not exceed 1,460,307 marks (about Rs. 7 lacs) —a very small contribution towards covering the 77,000,000 marks (Rs. 385 lacs) expended annually on schools in Prussia. The following data with respect to schools for the higher education of girls are not without interest. The total number of communes in Prussia with populations exceeding 10,000 inhabitants is 170. In many towns the schools of this class are private establishments. In the majority, however—viz. eighty-eight towns, and one country district—the commune itself maintains such a school. The fees are uniform for all classes of pupils in a few towns only—such as Berlin, Magdeburg, &c.—varying from an annual minimum of 48 marks (about Rs. 2 per mensem) in Küstrin, to a maximum of 96 marks (about Rs. 4 per mensem) in Berlin. In all the other towns there is a sliding scale of fees, the amounts usually corresponding to the rate of assessment of the parents, subject often to abatement in case of presumed inability. The total amount of school money received in 1877-8 in the eighty-nine communes which maintain this class of school, exceeded somewhat 2,000,000 marks (Rs. 10 lacs). This covered, almost everywhere, the largest portion of the school expenditure. In some towns there was a slight surplus. The total expenditure on these communal schools was about two-and-a-half millions of marks (Rs. 12½ lacs), and about 83 per cent. of this was met by the school money. In 76 out of the 170 communes having a population of over 10,000, a class of schools for boys is maintained, called "middle schools," which occupy a middle place between the public elementary school and the higher class of *realschule* and gymnasium. Unlike the higher girls' schools just mentioned, the school money of these middle schools (the fees in which are on a lower scale, comparatively, than in the higher girls' schools) does not nearly cover the expenditure. The cost of maintaining them amounts to about three-and-a-half millions of marks (Rs. 17½ lacs), about 52 per cent. of which is met by the school money. Pretty much the same may be said with respect to the proportion to expenditure of the school money of various kinds received in the establishments for the higher education of boys. In the sixty-six towns which have established *realschulen*, and superior burgher schools, the cost of maintenance amounts to 5,268,000 marks (about Rs. 26,34,000), about 54 per cent. of which is met by the school money. In the fifty-two cities and towns which have gymnasia, the cost of their maintenance amounts to 4,376,000 marks (about Rs. 21,88,000), only 51 per cent. of which is covered by school money.

THE POTENTIAL MOOD.

By C. P. Mason, B.A., F.C.P., Fellow of Univ. Coll., Lond.

A good many worthy people have been much exercised of late years by the harsh treatment to which an old friend of theirs has been subjected. Their venerable acquaintance, the Potential Mood, has been kicked out of certain grammatical circles with various contumelious expressions. Some have even gone so far as to brand him as an impostor. "Why this harsh treatment?" they ask. "Has he not as good a right to his position as his quondam neighbours? He may not be quite so big and strong as the Indicative, but is he not at least a match for the Subjunctive? And did not Lindley Murray countenance him?" Yes, he did, and there are still so many whose grammatical culture is only on a par with his, that it is the hardest thing possible to get many teachers to open their minds to the fact that, however respectable he may have been in his own age, in the present he would not pass for anything better than a well-meaning, pragmatical ignoramus. But some, doubtless, are open to conviction, and I think it will not be hard to get them to see why they should at once and for ever discard this wretched Potential Mood.

The whole thing really lies in a nutshell. The function of a verb is predication; that is to say, we form in our mind the notion of some object of thought, and then, by means of a verb, connect with that the notion of some action, or attribute, or state, which is signified by the verb. *The attitude of our mind* with relation to this connection is what gives rise to Mood. So far we may adopt Priscian's definition:—*Modi sunt diversæ inclinationes animi varios ejus affectus significantes.* Now, surely it ought not to require any long demonstration to show that you cannot have a verb, in any of its forms, attached to a subject, unless the predicative notion expressed by the verb is directly connected with what is denoted by the subject. Take "John" and "write." You are not using any form of the verb "write," unless you predicate of "John" *the act of writing* (whether positively or negatively, assertively or hypothetically, makes no grammatical difference), either as something pertaining to the objective world, outside your thought about it, or as a mere matter of conception, or (as a modification of this) as a matter of volition. But if you say "John can write," you do not predicate "writing" of "John"—that is my point, and I insist upon it—you predicate of him *the ability to do* something, which is a totally different affair. "Writing" is "writing" not "being able to write." That surely is indisputable; therefore "can write" is no mood (or form) of the verb "write," because you do not predicate "writing" by means of it. Similarly, if I say, "Boys, you may play now," I do not predicate "playing" of "boys." I make a direct statement by means of a verb (*may*) in the Indicative Mood,

that the "boys" *are permitted* to do something. The verb "may," like "can" in the last sentence, is a *principal* verb, and has its full *notional* sense. All this is as clear as daylight, but there are grammar-writers by the score, and grammar-teachers by the hundred, who are so "high gravel-blind" that they cannot see it. The Potential Mood is still in high favour at our Training Colleges, side by side with that prominent absurdity, that "Adjectives describe the qualities *of nouns*," and a few other choice specimens of rubbish. It was long ago seen that the name "Potential" was altogether inexact and insufficient, and that if the "can" or the "may" constituted a *mood*, each little verb must have a mood to itself, just as, if a preposition and a noun make a case, there must of necessity be as many cases as there are prepositions. Accordingly, worthy Mr. James White, a century or so ago, actually proposed the acceptance of "the Potential Mood," "the Elective Mood," "the Determinative Mood," "the Obligative Mood," and "the Compulsive Mood." The good man did not know much about grammar, but he was at least consistent.

The fact is, the whole thing was invented by men who were in absolute ignorance not only of the principles of comparative grammar, but of the earlier forms of their own language. They had no notion of the true function of the Subjunctive Mood, because they knew nothing of the English of the time when the Subjunctive Mood was in full use. They were possessed by the idea that we have a Subjunctive Mood in every conditional sentence (a mistake which I need not dwell on further, as I have already discussed it in *Ed. Times*, May 1, 1878); and (what more directly concerns us) they failed to see that the verbs "may," "shall," and "will" have two totally distinct uses.

In the first place, these verbs (like "can" and "must") may be used as *notional* or *principal* verbs, making a distinct predication of their own. Thus, "you may play" (where "permission" to do something is predicated of "you"); "I will be obeyed" (where a certain "determination" is predicated of "me"); "He shall not do that" (where a certain "restraint" over his actions is predicated of "him"). In these sentences we have the Indicative Mood employed. As *notional* verbs these verbs may also enter into some subjunctive constructions. In the second place, they may be used as mere auxiliaries—signs of tense or mood; but the important thing to observe is, that in this case *their notional value disappears*. As mood-signs they help to form compound tenses (or verbal phrases), which have replaced the older simple forms of the Subjunctive. Thus we say, "take care that all *may be* ready," for "take care that all *be* ready"; "it *would be* well that it *should be* done quickly," for "it *were* well that it *were* done quickly," and so on. But it is all-important to observe that "may be," "would be," &c., are subjunctive expressions, not because the verbs "may," "would," &c., are used, but because those verbs are *themselves* used

as the Subjunctive Mood, and so give their subjunctive *force* to the compound verbal form, after they have themselves been stripped of their notional *significance*, just as the notion of *futurity*, which is involved in *obligation* or *volition*, remains behind in "I shall go," and "he will come," when "shall" and "will" have ceased to imply obligation or volition, and have become mere tense-marks. But the compound forms referred to are in no wise a new mood, different from the Subjunctive; they are only a roundabout way of expressing the Subjunctive itself.

Now what a good many writers give us as the Potential Mood is a clumsy jumble of the *notional* and the *auxiliary* use of these little verbs "may," "shall," &c., made still worse by a complete confusion of the indicative and the subjunctive use of them. In "You may come in," "I could not come when you called me," "He would not come when I called him," &c., we get Indicative Moods. In "I could not do it if I tried," "He would be vexed if he heard of this," "He might have succeeded if he had worked harder," &c., we have Subjunctive Moods.* To describe all these as examples of the use of one and the same mood shows total inability to comprehend what the function of *mood* is. The mistake was long ago corrected by Lowth, who (Eng. Gr., p. 64, ed. 1775) says,—"In English the several expressions of *conditional* will, possibility, liberty, obligation, &c., come all under the Subjunctive Mode; the mere expression of will, possibility, liberty, obligation, &c., belong to the Indicative Mode; it is *their conditionality*, their being subsequent and depending on something preceding, that determines them to the Subjunctive Mode."

The mischief was begun by the Latin grammarians, who finding that forms of the type *sit esset*, &c., were used to express what in Greek was denoted by the Optative, called the Latin forms the "Optative Mood," when they were used in optative sentences. Matters got worse when Latin Grammar was adapted for English learners. Lily and others, fancying (quite erroneously) that *sim* is often translated "I can be," when it is not subjoined to some other

* I entirely differ from those who maintain that the loss of the *forms* by which the Subjunctive was once distinguished from the Indicative, has abolished all difference between the Moods. When a certain combination of letters is used for two perfectly distinct purposes, I deny that we have (for logical purposes) the *same word*. No one dreams of disputing the distinction between an abstract noun in *ing* and an imperfect participle because they end alike, or of saying that the same person of the verb is used in "we were" and "you were"; or of asserting that we have the same word (grammatically) in "a *fast* train" and "he runs *fast*." Pray let us have a little consistency. He must be a very dull person who does not see that in "I could not do this when I tried" the verbs make a predication respecting objective fact belonging to past time, while in "I could not do this if I tried" they make a predication respecting a subjective conception only, relating to present or future time. This being the case, I maintain that they belong to different moods.

In saying this of course I do not mean to deny that in numerous instances the Indicative has supplanted the Subjunctive; but that is another matter.

sentence, gave us a *Potential* Mood as well as an *Optative* and a *Subjunctive*. All this was as wrong-headed as it would be to split up the Ablative Case into as many different cases as there are *significations for the case*. G. J. Vossius did what he could to convince them that it was a mistake to make *three moods* out of one and the same set of forms, and Hoole so far corrected Lily as to say that the Subjunctive *is called* the Optative when it is used in wishing, and the Potential when it is construed by *may, can, would, should*, or *ought*. Still, *potential* was the name, not of a special *set of forms*, but of a special *use* of certain forms. But alas! *Fuellis doctorum decus!* Those who made our English grammars, finding that Subjunctive forms are of two kinds in English, simple and compound, and that grammarians had two terms in use, Potential and Subjunctive, hit upon the bright idea of calling the simple forms "Subjunctive" and the compound forms "Potential," and then proceeded to the monstrous blunder of extending the latter term to all combinations in which the verbal *may, shall, can*, &c., appeared, even though the verbs were notional and in the Indicative Mood.

Why should this wretched nondescript be foisted into English Grammar? Is there a respectable grammar in existence which applies the name "Potential Mood" to "Je puis écrire," to "Ich kann schreiben," to "scribere possum," or to "graphein dunamai"? Yet some of the most popular grammars of the present day set down "I can write" as a Potential Mood, without a word of explanation or justification. It cannot survive much longer, however. No such abortion is recognised by scholars like Koch, or Matzner, or Skeat, or Morris, or Latham, or Adams. It belongs to the veriest old-fogyedom of English Grammar, and will disappear from our teaching as soon as people think clearly and consecutively on these subjects, and realise the fact that English is not something apart by itself, but belongs to a great group of languages, which, amid their manifold varieties, have in common the same fundamental principles, and the same broad classification of the function of human speech.

THE QUALIFICATIONS OF THE TEACHER.

Continued from p. 65.

Mr. Galton has examined on the inductive method about 300 of the chief men of science in England, and has collected some very valuable material relating to their "Nature and Nurture," as he terms it. He naturally enquires what was the origin of their taste for science, and he gets the following table:—

	Instances.		Instances.
Innate tastes	59	Encouragement (friends).	20
Fortunate accidents ...	11	,, (teachers)	13
Indirect motives	19	Travel.....	8
Professional influences	24	Residual	3
Encouragement (home)	34		191

He notes that the "fortunate accidents" generally testify to the existence of an innate taste. Now it will be seen that, with the exception of (i.) and (ii.), the rest are examples of what I term *environment*; and let it be noticed that, if there is a Science of Education, it is desirable that we Teachers should be able to name the tools we are daily using.

Class (ii.) is an excellent example of what I call *action* of *environment* on *pupil*. There is an "innate taste" (and what that means requires careful analysis) called forth by the action of a fortunate accident, which, notice, becomes for the moment the Teacher.

Let us observe too that, if we assign (i.) and (ii.) entirely to pupil, and neglect (ix.), we have 118 instances for *environment* as against 70 for *pupil*;—that is, Teaching exceeds Nature.

Mr. Galton's facts were necessarily limited, but there is no sort of reason why, with the enormous machinery of schools at our disposal, we might not obtain more than a sufficiency of facts. It was, among other reasons, to do this, that at my suggestion, in August 1875, the Society for the Development of the Science of Education was set on foot. The result certainly has not been very encouraging; but nothing is very encouraging that strives to create a want as well as supply it. A friend of mine who has himself been a warm—I may say a lukewarm—supporter of this society, urges that it should resolve itself into a committee for occasionally publishing a "good" paper (when, as he suggests, that can be found), and translating or republishing an old work on education when funds permit. The suggestion is an admirable one, for any difficulty about the goodness of the paper would be got over by the committee publishing their own, as they probably would. It seems to me very desirable to know what Ratke and Pestalozzi thought on the subject of Education, and an able pair of scissors can do much for us in that direction; but it seems equally desirable to do what Pestalozzi and Fröbel would do were they alive now, and saw, as the latter probably would see, the necessity of connecting Education with Science, which teaches us what that part of the child's *environment* which we call Nature really is. My friend says, "The truth is, the printing press has become so active that people have no leisure time for anything but reading and social intercourse." "As Latham says," he goes on, "you can't get any people together (*i.e.*, unexcited people) except women and working men." Curiously enough, one of Mr. Galton's scientific men regrets the frightful waste of time under what is euphemistically called "social intercourse." As to "women and working men," I can't forget that Christianity started with women and working men, and for my part I shall be well satisfied to see working women and working men take up the subject. It is not the fewness of Galileans that keeps us back, but the number of Laodiceans. Gibbon says Christianity was aggressive. I daresay it was, for to be progressive one

must be aggressive. Let then every teacher who believes, as I believe, that there is a Science of Education and an Art of Education, become a working man, with, if he will, just a pinch of excitement, and—when the murmur of excitement subsides—set to work to record facts by which such a Science, *à priori* in basis, may be tested and guided; let him insist on having a central authority to instruct him how to record, and to receive, and tabulate, and arrange, and generalise such facts. The Science of Education would not then be far off, nor the Art of Education, another name for unintelligence.

Of *environment* the Teacher is fortunately not ignorant, for enquiry has been directed towards it—consisting as it does of Nature and Man—from the earliest times, and the various sciences answer more or less perfectly the questions that have been proposed. Such questions were certainly not put for the Teacher's purpose; but, having been put and partly answered, he can avail himself of the answers. Education in the highest sense is perhaps, except Religion in the highest sense, that is, the practical sense, about the last thing that Mankind has thought of. A good deal of the life of Mankind has gone on instinctively while it has been engaged in interrogating Nature and Man; and this, when it has not been *counselled* by its spiritual nurses, has been an education because a process of acquiring knowledge. Even still the idea obtains, that all a Teacher is concerned with is imparting knowledge, but there is something higher than knowledge—the use of knowledge. There was a time when we paid our doctors by medicine, and of course got over-dosed; now we are a trifle wiser and are willing to pay for the skill, and experience, and training, and self-denial, which affords us their advice and saves their medicine. I trust the time will come—when parents, with a larger scope of mental vision, will pay us for the anxiety we take on in their children's faults and failings, and for the skill, and experience, and training, and self-denial, which convert those faults and failings into virtues and integrity. Knowledge we must still use, as a Doctor must still use medicine; but knowledge will be a means, not an end, or we shall drift into worshipping knowledge instead of goodness. A friend lately said, "When this comes is doomsday come," but that is disproved by the fact that there are parents (few I admit) who even now realise the idea, and to whom even now the formation of their child's character is of prime importance, and to which

> "Their purse, their person, their extremest means
> Lie all unlocked to its occasions."

It is an encouraging fact—and it certainly is a fact in my experience—that in direct proportion to the parent's thinking unshackled, largely, deeply, earnestly, and honestly, on the problem and mystery of life, does he—and I will say she also—admit, and, what is more, act upon, the view of Education that I am endeavouring to lay before you.

The education thermometer for testing the warmth of the Parent's desire for it may be thus graduated :—

Zero—"Don't want no eddication, cos we 'as to pay for wot won't pay us."

Somewhat higher—

10°. To smile rosier, look prettier, dress dearer, seem better, and get a husband quicker, than the other "dear girls."

Still nobler—

20°. To write and sum so as to help in the shop.

Mounting yet—

30°. To sit on a high stool and escape manual labour.

"Excelsior"—

40°. To pass "exams."

Very fine quality, much appreciated—

50°. To make an income, and keep a 10° wife.

Will bear comparison with any other country—

60°. To be an English gentleman.

A long interval—

100°. To be a man; in the highest, noblest, and truest sense of the term.

The mercury may go above 100°, only the graduation is on another scale; it certainly may go below zero, as our criminal education (and very costly education it is) can inform us.

But we must pass on to the second factor—the *child*, the more important of the two factors, if one blade of the scissors can be said to be more important than the other.

It would be interesting to tabulate the number of Teachers in England during the last ten years, the number of their pupils, the time they were in contact with them, and the amount they have added to our stock of knowledge of Childhood! If, as I venture to imagine, the increment be very small, is it due to our knowing all that can be known about a child? or is it that there is no careful systematic observation? or is that the knowledge that has been acquired is so precious, like attar of roses, that it must be well corked lest it should perfume the surrounding air. Let any Teacher who doubts the value of tabulating results do this,—give to some children something to learn by rote, say a verse of poetry, a declension, an arithmetical definition (the idea being understood) as a test of verbal memory. Let the children observe attentively the sequence of words with the book open for a short interval. Close the book—let them try to say—mark those that fail—repeat the process again and again, and record the number of times required for success. Or, take something prepared, something the pupils are supposed to know, say a piece of Latin or French author; let questions be put—(1) by each pupil to himself, (2) by pupils to each other, (3) by a master; and then compare the character of the questions in relation to (i) the subject, (ii) the child-mind, (iii) the adult-mind.

Unless I am greatly mistaken, the Teacher will be surprised and

enlightened; and, unless I greatly err, he will leave off more sympathetic with the weakness of Childhood than he began. I would like to know upon what positive knowledge those who "set lessons" (as it is called) act, as to what they ought to expect, having forgotten what they themselves used to give.

I will make a hasty, and, of course, a very general and imperfect sketch of what we do know of the *Child*. The Child is first of all a compound of body and mind, and the connexion is peculiar; it is not that of cause and effect, or coincidence, but of concomitance or correspondence.

The child, then, is a machine for Feeling, Thinking, Willing, Acting. We are very much interested in his Acting, and therefore with the antecedent processes. The nerves enable him to Feel, and in their highest perfection, in the nerves of Special Sense, to Know; the brain enables him to Think; the vital energy enables him to Will; the muscular network enables him to Move. The machinery has to be preserved and restored, and the vital energy maintained. Further, all these processes act and react on each other—we can act on and restrain Feeling by Thought, and both by Will. Will can act on Feeling and turn it off; it can ally Feeling with Feeling, Thought with Thought, and Feeling with Thought. Sensation, too, can be allied with Motion. To trace out these processes would of course exhaust Physiological and Mental Science; and to connect them, as at every turn they can be connected, with the Art of Teaching, would demand a volume. The Teacher who makes himself acquainted with them early, will master his Art by daily and hourly observing them in the concrete, and will learn to love a profession that opens up to him at every turn fresh vistas of knowledge. To him contact with childhood is no wearisome task, but an ever-varying scene of beauty; as the child loves to change, he will love to watch the change. It is no sick-bed he tends, no fading life he sadly watches; no, it is the bursting of energy, the music of mirth, and the beckoning of hope that he follows.

In a former lecture I showed the knowledge involved in the teaching of Writing; urging that, if such knowledge was implied in the teaching of a subject so mechanical as Writing, how much more in the refined processes of character-forming. Suffice it now to say, that these forces are partly controllable and partly not; and in so far as they are, they come within the scope of the Science and Art of Education. The Science of Education analyses the child's nature far enough to enable the Art of Education to form his character. While a single force remains unworked which could have been worked to make the character more perfect, the Art of Education has failed, and has failed through incomplete knowledge, or lack of skill in applying it. Here we see how the Science of Education touches Physiology: Physiology seeks to investigate, completely and exhaustively, the child's physical constitution; the Science of Education avails itself of that knowledge in so far as applicable to a

child is growth (mark the growth), and only for him in so far as such knowledge tends to change and control his nature. The same may be said in relation to Mental Science.

Here an interesting problem—the problem I shall submit to discussion—arises. It may be said—it is said, or if not said is felt, for the existing theory of education (so far as there is one) is founded on the proposition —to give the child knowledge (please observe the word "give"), or even to form its character (though existing education does not suffer extreme anxiety on that score), it is not necessary to analyse child-nature; you can treat the child as a whole, and feel your way; you only want earnestness and sympathy, not knowledge; you don't want to *train up* a child in the way he should go (a new-fangled idea, implying troublesome knowledge), what you do want is to lead him or drive him; but you may escape a good deal of the personal leading and driving by machinery (quite a venerable thing, machinery), for emulation and stimulation will save a lot of personal trouble and anxiety.

This, then, is the proposition I submit to discussion—"Is an analytical knowledge of child-nature necessary?" I submit it is, and essentially necessary; of course I hold that much more is necessary to the Teacher, but it will be well to confine our discussion to this one point.

Having now sufficiently, at least for the present purpose, considered two factors with which we have to deal—the *child* and the *environment*,—let us proceed to notice how these affect each other, that is, *interaction*.

There are two views of the question that must at once strike us—the *statical* and *dynamical*, or the *operative* and *inoperative*; perhaps the former terms are better applicable to the child, and the latter to the *environment*. The *child* is partly statical and partly in motion, the *environment* partly operates on the child and partly does not. It is with the moving, the changeable, the dynamical, that the teacher has to do. He has to mould and fashion, or rather to guide and direct, and therefore he must work with that which is moving and tending. He does not make the stream, he finds it leaping down the mountain; he does not make the stones, he brings them to the water and constructs the mill.

He can turn the stream, and lessen or intensify its force; but he can neither destroy nor create it. The question, "What can Education effect?" is perhaps the most essential and the most important of the whole subject, and is probably the one that has been the least examined and the worst answered. Parents generally are a little informed on the subject of education (apart from bread-winning or as a political question) as they well can be, and, with the exception of an elite, as little desirous of being informed as they well can be; but on this particular branch of the question they exhibit in practice (and there's the rub) a degree of ignorance that positively commands admiration,—indeed, they are not content unless it is admired.

They demand the silk purse as if they had a right to it, having paid for it, with the most profound conviction that they can get it, and with the most profound forgetfulness of the material out of which it is to come. On the other hand, when there is a prospect of paying for education as something of paramount importance, they discover that it really can accomplish very little, and is quite inferior to law, medicine, and theology. The man who would not hint an objection to his case going to Serjeant Buzfuz instead of to young Briefless, though he should pay Buzfuz an extra five hundred to lose it for him would think twice and look as poor as he could (and it is astonishing how well he can do it) if the choice lies between two schools, and an extra thirty or forty pounds, though that extra forty pounds guides the whole future of his child's life. Professor Huxley said the other day—"Let it be borne in mind that, if any one could go into the market and buy a potential Watt or Faraday for a hundred thousand pounds, the bargain would be dirt cheap."

Now, brother teachers, we must bring it home to the understanding of the British parent (in his breeches' pocket, where we shall be pretty sure to find it), that we can discover and develop potentiality in his hopeful son, if there it be; and I am not sure that he will not put down his own money on the chance of it being there, for there is always the possibility of transmitted genius—from himself. But we must prove our skill beyond a shadow of a doubt, or the money will not change hands. I regret that I cannot at present hold out an equal hope for my sister teachers.

A friend of mine, a worthy and able teacher, the late Thomas Hall, formed a voluntary Chemistry class at the City of London School, which has since been incorporated into the school work. He had a promising pupil, Perkins by name, I think, whose father one day said to him, "Mr. Hall, I don't think Chemistry will ever be of any use to my son, I fancy he had better discontinue the study," or words to that effect. My friend was far-sighted, and urged, and persuaded, and succeeded in keeping the boy in the class. As I have been informed, Perkins became a great chemist, fixed the mauve colour, and—made a fortune. I have never been informed (though it may be the fact nevertheless) that any portion of that fortune was shared with the man without whose foresight and intentional development of the child, and education, let us remember, of the father, that fortune would not have been made. When the child grows up, there is a convenient forgetfulness of what he owes the teacher, he grows truly out of remembrance; it is so easy and so natural to attribute his success to his own talent, and his industry, and perseverance,—even his mother believes it. Neither the parent nor the pupil have yet reached the spirit of the lion in the fable—

"Et qui delectat parva tua molestia
Audacter talle."

We have been shame-faced long enough, and perhaps justly, but let us cease to be pedagogues or boy-slaves, and tutors or boy-

Lespert; let us exercise a skilful craft, and demand, and be determined to have, our just and fair share of the reward that comes, and comes alone, from the skilled exercise of our craft. But teaching is inferior to pleading! The intelligence that frames the law is inferior to the exposition of the product; the intelligence that prevents disease is inferior to that which cures it; the intelligence that expands the human mind is inferior to that which for the most part crushes it. A profession, now a noble one, but which not long ago was barbarous in more senses than one, takes precedence of education, and the teacher even yet is the lackey of the parson! When the law becomes intelligible, and men intelligent, and lawyers are raised to a better world, education will still be needed, for the child will still go on growing: the educator shall outlive the lawyer, for like the grave-digger, he shall last till doomsday. After all, why should the solicitor be so much better paid than the teacher? Is it because he is more intelligent? I think it is. If you have a little property left you and get him to settle it for you, you will understand what I mean. If we could gracefully hand over the skin and teeth of the child to the parent *after* our little bill was paid, we could arrange the costs more to our own satisfaction. I fear the law would, however, pronounce that a one-sided development. The barrister too has the advantage over the teacher. If a schoolmaster makes a point against the parent, who pays the costs? A barrister, who makes a point with the jury (it is nice to have your jury in one box), enjoys his dinner all the more by knowing that he does not pay the cost, but makes a hundred or two, as well as his point; it gives flavour to his dessert.

As a teacher, I have a profound respect for the doctor, the advocate, and the parson; but I know I can make all three, and shall outlive at least two; and though I bow to each, I will bend to neither.

To ask what education can do is to ask what is the educator's work, and what shall be his position. Knowledge is power, and this knowledge should give us courage on the one hand, and humility on the other. When the patient knows what the physician can do for him, he will not pay for what he can't do; as it is, he pays for his own ignorance, and folly, and fears—forces which not less than reverence have raised cathedrals. When the parent knows what the teacher can do for him, he will pay for that; now he pays for his ignorance—and not adequately, or the teacher would be rich. The parent pays, however, heavier for education than he thinks, only it does not go into the teacher's pocket; where it does go it is not necessary too curiously to enquire, but certainly the doctor, the soldier, the judge, the counsel, the policeman, the gaoler, the teacher-parson, the keeper, and the hangman share the teacher's pay—and rightly, too, for they share his work.

You see, then, how different is the conception of education we start with from that ordinarily received.

Remembering how subtle the question is, and how little material we really have for answering it, let us enquire what education can and cannot accomplish. I must be brief. To begin with the *child* there are two important facts—(1) *Heredity*. (2) *Growth*. On the subject of Heredity a theory has been advanced by Mr. Francis Galton which I will simply epitomise.

Mr. Galton begins by defining what he calls the "stirp," that is, the sum total of germs in its earliest stage, after receiving nothing further from the parents. This, then, is the first start of the future *child* in independent (so to say) life.

He then postulates :—

(1) That each separate unit of the body has a separate origin or germ.

(2) That the "stirp" contains more germs than are required for the development of the individual, and that many germs are not developed in that individual, but handed on.

(3) The undeveloped germs, nevertheless, retain vitality—propagate while latent—and go to form the "stirp" of the offspring.

(4) Organisation wholly depends on the mutual affinities and repulsions of the separate germs, both in the stirpal and also in the subsequent development.

(*To be continued*).

GOVERNMENT CENTRAL BOOK DEPOT.

List of New Books Received into the Government Central Book Depôt, Bombay, from 21st February to 31st March 1879.

New Editions of the following Books have been Published.

MARATHI.	Rs.	a.	p.
Departmental 6th Book, Balbodha, 3rd Edition, 1878.....	1	0	0
GUJARATI.			
Departmental 2nd Book, Stereotyped 12th Edition, 1879.	0	3	0

New Works published by the Department.

SANSKRIT.

Bhandarkar's 2nd Book of Sanskrit translated into Marathi by Prabhakar Ramchandra Pandit, 1879	1	4	0

Fresh supply of the following English Books has been received from England.

Lanrie's Standard Copy Books, Nos. I.—VII & IX., each	0	1	4
Smith's History of England	1	12	0
Day's History of Sandford and Merton	0	8	0
Chamber's Moral Class Book	0	12	0
Potts' Euclid, Books I.—IV.	1	8	4

DEPARTMENTAL NOTICES.

Travelling allowances.

NOTIFICATION.

The subjoined Government Resolution No. 253, dated 28th February 1879, Educational Department, with accompaniment, is published for the information of Educational officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
6th March 1879.

No. 253.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 28th February 1879.

Endorsement from the Government of India, Home Department (Education), No. 49, dated 19th February 1879—Forwarding, with reference to this Department letter No. 1334 of 1878, copy of their Resolution in the Financial Department, No. 536, dated——February 1879, sanctioning the extension to officers on the establishments of the Educational Inspectors and Assistant and Deputy Educational Inspectors, of the privileges, in the matter of travelling allowance, conceded by Resolution No. 3736 of 1872.

RESOLUTION.—Copy to the Director of Public Instruction, with reference to his letter No. 2749 of 28th September 1878.

(Signed) J. NUGENT,
Acting Secretary to Government.

To the DIRECTOR of PUBLIC INSTRUCTION, (with copy of the above), the ACCOUNTANT GENERAL, BOMBAY.

No. 536.

GOVERNMENT OF INDIA;
FINANCIAL DEPARTMENT;
PAY AND ALLOWANCES.
(*Travelling Allowances.*)
Fort William, the—*February* 1879.

Read again,

Financial Resolution No. 3736, dated 24th October 1872, sanctioning an application from the Government of Bombay, "that the establishments of Collectors in that Presidency may be allowed travelling allowance (batta) as long as they are away from head-quarters with the Collectors, a stay of less than seven days at head-quarters on duty during the fair season not subjecting them to deduction."

Read—

A letter from the Government of Bombay, received in the Home Department, No. 1334, dated 11th November 1878 requesting that the privilege accorded to the Collector's establishments in Bombay, in the Resolution mentioned above, may be extended to the establishments of Educational Inspectors and Assistant and Deputy Educational Inspectors in that Presidency.

RESOLUTION.—The Governor-General in Council is pleased to sanction the proposal to extend the privileges conceded by Resolution No. 3736, dated 24th October 1872, to the officers on the establishments of the Educational Inspectors and Assistant and Deputy Educational Inspectors in the Bombay Presidency on the condition that a certificate shall always be appended to claims under these orders, to the effect that it was necessary to keep camp equipage at its full strength during the period of stay at head-quarters, and that equipage has actually been so maintained. The same certificate should hereafter be appended to similar claims for travelling allowance to Collectors' establishments, preferred under Resolution No. 3736, dated 24th October 1872.

Ordered, that the foregoing Resolution be communicated* to the Home Department and to the Accountant General, Bombay.

* Original papers returned, copy kept.

(Signed) R. B. CHAPMAN,
Secretary to the Government of India.

No. 49.

Copy forwarded to the Government of Bombay, with reference to their letter No. 1334, dated the 11th November last.

Home Department, (Education), Fort William, 19th February 1879.

By order,
(Signed) H. H. RISLEY,
Offg. Under Secy. to the Govt. of India.

(True Copy)
(Signed) L. MACDONALD,
Superintendent.

Advertisement in Government Gazette.

NOTIFICATION.

The subjoined Government Resolution No. 483, dated 22nd February 1879, General Department, is published for the information of Educational Officers, with reference to this Office Notification dated 2nd November 1878.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction, 7th March 1879.

Advertisements.

No. 483.

GENERAL DEPARTMENT.

Bombay Castle, 22nd February 1879.

Letter from the Superintendent, Government Central Press, No. 434, dated 20th February 1879.—Enquiring, with reference to paragraph 5 of the Resolution of the Government of India, No. 1801, communicated with this Government Resolution No. 3159, dated the 17th October 1878, whether a notice or advertisement of the nature referred to, when sent for publication in the *Government Gazette*, should be accompanied by a certificate to the effect that "it has been either published or sent for publication in at least one public journal."

RESOLUTION.—The Superintendent, Government Central Press, to be answered in the affirmative.

E. W. RAVENSCROFT,
Chief Secretary to Government.

To all DEPARTMENTS of the SECRETARIAT; the ACCOUNTANT GENERAL; all HEADS of Offices under the CIVIL DEPARTMENTS.

Purchase of Stationery in Bazar.

NOTIFICATION.

The Accountant General has pointed out that several Educational Officers are in the habit of purchasing articles of stationery from the local market instead of obtaining what they require on indents from the Superintendent of Stationery. The undersigned therefore requests Educational Officers to be careful to observe the rules regarding stationery, and to make no purchases in the bazar of articles which should be supplied by the Superintendent.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
11th March 1879.

Dismissal from Educational Department.

NOTIFICATION.

Atmaram Dulabhram, Master of the Vernacular School at Talanpor, taluka Chorasi, zilla Surat, has been, with the sanction of the Director of Public Instruction, dismissed from the Educational Department for the following reasons:—

1. For absenting himself without leave, and in defiance of the orders of his superior.

2. For continuing to correspond with his superior as though he were in charge of the School, he being at the time absent from Talaugpar.

E. GILES,
Acting Educational Inspector, N. D.

Ahmedabad, Office of the Educational Inspector, N. D.,
21st March 1879.

Certain fresh instructions of Accountant General.

Extract, paras. 6, 13, 15, and 16 of the Accountant General's Circular, No. 8, dated 5th March 1879, are published for the information of Educational Officers in the Central Division.

T. B. KIRKHAM,
Acting Educational Inspector, C. D.

Poona, Office of the Educational Inspector, C.D.,
28th March 1879.

6. In explanation of this Office Circular No. $\frac{\text{T. A. S.}}{7503}$ dated 28th August 1878, it is notified that payments to private contractors for work performed and to tradesmen for goods supplied for the service of Government may be made by Remittance Transfer Receipts under para. 3 (a), Chapter 8, of the Civil Account Code.*

Grant of Remittance Transfer Receipts.

13. The period for which the salary is drawn should be noted in the body of the bill, and the month in which the bill is paid should be noted in the column provided for that purpose on the right hand of the upper part of the bill.

Gazetted Officers' Salary Bills.

15. The bills on account of salary, travelling or other allowances due to a gazetted Officer should be signed by the Officer himself, and no payment on that account should be made when the bill is signed by any other Officer.

Signatures.

16. Receipt Stamps should be affixed to the original bills on which the payment is made and which are sent to this Office with the Accounts. No second copy of the bill is necessary.

Receipt Stamp.

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* Remittances to the Manager, Bombay Educational Record, should invariably be made by Government Officers in the form of Remittance Transfer Receipt under this authority.—ED. B. E. R.

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT FROM THE 16TH FEBRUARY TO 15TH MARCH 1879.

20*th February* 1879.—Mr. R. P. Bengeri, B.A., is appointed Acting Second Assistant Master, Dharwar High School, *vice* Mr. Indaparkar.

22*nd February* 1879.—Mr. Narbarram, Head Master, Branch School, No. II., Surat, is appointed Head Master of the Amalgamated Branch School, Surat.

22*nd February* 1879.—Mr. Barjorji A. Enti, B.A., substantive *pro tem.* Second Assistant Master, Surat High School, is appointed substantive *pro tem.* First Assistant Master Bhownagar High School, in place of Mr. Vyas.

25*th February* 1879.—Thirty-eight days' privilege leave is granted to Mr. Vasanmal, T. Tutor to the Mirs.

25*th February* 1879.—Mr. Vishun Narayen Suthe, Acting Fifteenth Assistant Master, Poona High School, is permitted to resign his appointment.

25*th February* 1879.—Mr. Vasudeo Krishna Bhat, is appointed Acting Fifteenth Assistant Master, Poona High School.

26*th February* 1879.—An extension of six weeks' sick leave is granted to Mr. S. B. Bhote, Second Assistant Master, Karwar High School.

28*th February* 1879.—Three months' leave of absence, without pay, is granted to Mr. Bal Shastri Har Dewa Pandit on the Establishment of the Marathi Translator Educational Department.

28*th February* 1879.—Mr. H. V. Kolkar is appointed substantive *pro tem.* Second Assistant Master (Canarese side), Belgaum High School.

28*th February* 1879.—Mr. V. K. Mahajani, is appointed Acting Fifth Assistant Master (Marathi side), Belgaum High School, *vice* Mr. Chatre.

3*rd March* 1879.—Mr. Manibharprasad T. Desai, is appointed substantive *pro tem.* Head Master of the First Grade Anglo-Vernacular School, Bulsar.

4*th March* 1879.—Forty-five days' leave, without pay, is granted to Mr. Shankar S. Mudlur, First Assistant Master, First Grade Anglo-Vernacular School, Belgaum.

5*th March* 1879.—Mr. Bhaskar D. Gokhale, is appointed substantive *pro tem.* First Assistant Master, Dharwar High School.

6*th March* 1879.—Mr. Mathuradas Amrithal Vaswada, is confirmed in his appointment as First Assistant Master in the Junagadh High School.

6*th March* 1879.—Mr. Malhar Bhikaji Belsari, is confirmed in his appointment as Second Assistant Master in the Junagadh High School.

6th *March* 1879.—Mr. Gauvantram Madhavaram Mehta, is confirmed in his appointment as Third Assistant Master in the Junagadh High School.

10th *March* 1879.—Mr. Balkrishna N. Parani, F.E.A., substantive *pro tem.* Eighth Assistant Master Surat High School, is appointed probationary Second Assistant Master, Nawanagar High School.

10th *March* 1879.—Mr. Hormusji K. Barucha, B.A., Persian Teacher in the Broach High School, is appointed substantive *pro tem.* Eighth Assistant Master in the Surat High School, *vice* Mr. Parani, or until the return of Mr. Gulabdas.

11th *March* 1879.—Mr. Wassanmal, T. Tutor to the Mirs, is temporarily appointed Acting Third Assistant Master, Hydrabad High School.

11th *March* 1879.—Mr. Hagiwandas, Acting Third Assistant Master, Hydrabad High School, is temporarily appointed Tutor to the Mirs.

11th *March* 1879.—Mr. Harilal Harsadrai Dhru, B.A., is appointed for one year Duxina Fellow in the Gujerat College at Ahmedabad.

14th *March* 1879.—Mr. D. V. Vyas, is appointed substantive *pro tem.* Head Master, Nawanagar High School.

14th *March* 1879.—An extension of one month's sick leave is granted to Mr. Bhicaji Daji Agashe, Gymnast in the Poona High School.

14th *March* 1879.—Mr. J. A. Oliveira, is appointed Time-keeper in the Poona Civil Engineering College.

15th *March* 1879.—The two months' sick leave, granted to V. P. Datar on the 18th January 1879, is cancelled, and in lieu of it two months' leave without pay is granted to him.

15th *March* 1879.—Mr. B. R. Bagalkote, Sixth Assistant Master, Dharwar High School, is appointed substantive *pro tem.* Fifth Assistant Master in the same School, *vice* Mr. Datar, on leave.

15th *March* 1879.—Mr. K. S. Jakati, Seventh Assistant Master, Dharwar High School, is appointed substantive *pro tem.* Sixth Assistant Master, in the same School, *vice* Mr. Bagalkote.

15th *March* 1879.—Mr. S. B. Alur, Eight Assistant Master, Dharwar High School, is appointed substantive *pro tem.* Seventh Assistant Master in the same School, *vice* Mr. Jakati.

15th *March* 1879.—Mr. B. M. Singit, Ninth Assistant Master in the Dharwar High School, is appointed substantive *pro tem.* Eight Assistant Master in the same School, *vice* Mr. Alur.

15th *March* 1879.—Mr. S. V. Cappar, is appointed Ninth Assistant Master in the Dharwar High School, *vice* Mr. Singet.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
20th *March* 1879.

THE

Bombay Educational Record.

No. 5.] MAY 1, 1879. [Vol. XV.

THE MONTH.

We reprint in this number a very able and impartial review of Professor Bain's new book on "Education as a Science," which may have the effect, we hope, of inducing many of our readers to become possessors of the volume.

The Secretary of State for India has acceded to a request that selected candidates for the Indian Civil Service may pass their probationary period at University College, London, residing either in University Hall or with one of the authorised professors. There are several Bombay men entered in University College at the present time.

Some important changes are proposed in the Classical Tripos at Cambridge. Among other innovations, the order of Merit will be abolished, and the Oxford Class system adopted, and the advanced portion of the Tripos will include several groups of subjects, of which one only is to be selected by a candidate. Three of these groups are History, Archæology, and Language, and the knowledge and treatment required will be thoroughly scientific in character. Archæology will include papers on Greek and Roman mythology and religion, on topography and monuments, and on art and handicraft, and the inscriptions of the Greeks and Romans, in relation to their domestic and national life. The language group will include elementary Sanskrit, the comparative grammar of the Indo-European languages, and the history of alphabets.

A School, wherein students will be instructed in mechanical engineering, is being erected, under the auspices of the Rev. E.

Warre, at Eton College. The site of the new building is on the west of the college, not far from the gas-works, and in the vicinity of the "Sluds," and a prominent feature in the erection is a handsome hall, upwards of 70 ft. long, 30 ft. wide, and about 25 ft. high. As soon as the school is finished, a course of instruction, it is understood, will be commenced in practical metallurgy and the casting and working of iron and brass, and a steam-engine will furnish the motive power for the machinery used in the building. The plan of instruction will, it is believed, be somewhat similar to that carried out at the Indian Civil Engineering College at Cooper's Hill, Egham. The scheme is a bold and novel innovation, but the practical benefits likely to arise from this new branch of education are likely to be greatly appreciated by parents and students.

The English Journal called The *Chamber of Agriculture* learns that a reply has been received from the Secretary of the Science and Art Department at South Kensington to a memorial presented by the council of the central and associated chambers of agriculture advocating a special teaching of agricultural science. It is to the effect that a special course of instruction in agricultural science will, if possible, be given this summer for teachers if a sufficient number of approved candidates apply. It is not proposed, however, to give such a course to the students now at South Kensington, nor is it deemed advisable by the department to add instruction in any applied science to the fundamental branches now included in the curriculum of the training colleges.

Prince Leopold and Mr. Gladstone took part in the proceedings of a numerously attended public meeting held at the Mansion House, London, under the auspices of the London Society for the Extension of University Teaching, for the purpose of promoting the object which that society has in view. Mr. Gladstone, whilst moving a resolution expressing an opinion that the society ought to receive the support of the inhabitants of London and the suburbs now that the Universities of Oxford and Cambridge had consented to assist, spoke of the great advantages which it sought to confer upon society by taking up in an extended form the work which the University of London commenced half a century ago. Prince Leopold, who was the mover of a resolution advocating the forma-

tion of local committees for the purpose of assisting the society, and that the University of London had to a certain extent removed the barrier which existed between the universities and students of narrow means; and the steps which were being taken to increase the facilities for instruction by teachers of the same calibre as those who did the work of the universities themselves indicated the spirit which had arisen in the old seats of learning. The other speakers were Mr. Goschen, the Rev. Dr. Barry, and Lord Aberdare.

A contest is being waged between the London School Board and the Education Department of England, which may be briefly described as the "Battle of the Desks." The department has laid down a rule that all new schools built by the Board shall be twenty-two feet wide, shall be fitted with five rows of desks, and shall not cost more than 10*l.* per head of the pupils to be accommodated. The Board agrees to the first requirement, and will endeavour to comply with the third; but the second it entirely refuses. It pronounces in favour of six rows of desks; and to that pronouncement it adheres. Thus these two powerful bodies are in direct opposition. Neither will accept the *ultimatum* of the other; and co-operation between them is suspended till one of them shall be brought to a better mind. The real matter in issue of course is not so much the five or six rows of desks, but the respective limits of authority and subordination which may as well be fought out on this as on another issue.

It is proposed to hold a "Congrès de l'Enseignement," together with an educational exhibition, in connexion with the celebration of the fiftieth anniversary of Belgian independence, which takes place next year at Brussels. The president is M. A. Couvreur, and the secretary M. Ch. Buls; and among the foreign members of the council are Mr. T. Twining, Sir Joseph Hooker, Sir John Lubbock, and Mr. Hodgson Pratt.

There are now in Prussia 245 gymnasia distributed among the provinces of the monarchy as follows:—Silesia, 36; Brandenburg, 34; Rhine Provinces, 29; Saxony, 25; Hanover, 20; Westphalia, 20; Pomerania, 17; East Prussia, 14; Posen, 14; West Prussia, 12; Schleswig-Holstein, 12; Hessen-Nassau, 12. In 1878 there were 3,893 candidates for the "maturity examination" which is held at

the close of the students' scholastic course, a certificate of having passed this examination being an indispensable condition to public employment. Of these, 351 withdrew their names before the date of the examination, 125 were rejected as unqualified, and 2,917 were admitted to the examination, of whom only 2,715 passed. There are 84 *Realschulen* of the first class, which presented 981 candidates for the final examination, or about an average of ten for each school. Of these 93 withdrew their names, 24 were rejected, and 714 were admitted to the examination; but only 662 (or less than an average of 8 per school) passed. The 20 *Realschulen* of the second class presented 32 candidates, of whom 2 withdrew, 4 were rejected, and 26 admitted to examination, all of whom obtained certificates.

THE USES OF FERNS.

Those who have been fairly inoculated with the love of ferns, will be interested to learn that many species of these beautiful plants are used not only for food and medicine, but for economic purposes. As food, they are chiefly useful to the aboriginal inhabitants of some foreign countries. In the larger of the exotic ferns—the tree-like species—the inner part of the stem, stipes or rhizoma—corresponding to what would be the pith in other plants—and sometimes the whole of the tuberous rhizoma, is eaten generally after being boiled. In India, some of the natives boil the tops of one species of fern, and eat it with shrimp-curry. Amongst ourselves, two of the most beautiful species—the bracken and the male fern—are said to have been sometimes used as ingredients in the manufacture of beer; whilst one foreign species (*Aspidium fragrans*) is actually stated to have been used for making tea. Our native maidenhair used at one time to furnish a principal ingredient for a syrup called 'capillaire.' . . . The rootstock of the royal fern (*Osmunda regalis*) was, in times gone by, reputed to possess the quality of healing wounds, whether applied to them externally, or taken inwardly in the form of a decoction. Its outward application was considered a specific against bruises or sprains, and good for bones broken or out of joint; and, taken inwardly, it was also believed to be good for colic and for splenetic disorders. In some parts of Europe its rootstock is said to be used, after being boiled in water, for the purpose of starching linen. . . . A pleasant and familiar inhabitant of our lanes and woods—the common polypody (*Polypodium vulgare*)—has had ascribed to it, by ancient herbalists, various medicinal qualities, amongst them being the power of curing coughs and asthmatic affections, the dried rhizomas being powdered for the purpose and mixed with honey.—*Fern World. By F. G. Heath.*

TECHNICAL EDUCATION.

The following account of what is being done in London for the improvement of Technical Education, extracted from the *Globe*, may be useful here at the present time:—

The City guilds, then, are about to set up a central institution, at which they will teach physics, chemistry, mechanics, and arts, as applied to various manufacturing industries; and in addition to this they will establish, or at any rate assist in the establishment of "Local Trade Schools." At the central institution advanced teaching will be provided, and only those will be admitted who can show that they are possessed of such a knowledge of science and art as will enable them to profit by the instruction given. In each of the four departments professors, demonstrators, and assistants are to be appointed; and it is expected that year by year this institute will send forth teachers for the local schools, as well as a supply of thoroughly competent workmen, foremen, managers, and principals of manufactories. As to the local trade schools, it is proposed that, at the outset at all events, their establishment shall be left to the residents in localities where they are most needed, the companies merely affording such assistance as may seem to be required. If it should be found, however, that local effort is inadequate to the institution of these schools, then the companies propose to set up two schools as models. Applicants for admission to these local institutions, as in the other case, must show that they have received sufficient elementary teaching in art or science to enable them to follow the instruction; but that instruction will be of a lower grade, and more especially adapted to the requirements of apprentices and workmen who wish to improve themselves. It is further intended that a considerable sum of money shall be devoted to providing exhibitions for meritorious students, tenable at the central institution, and to the assistance of technical education going on in various ways and in various parts of the country. In accordance with the unanimous opinion of the experts consulted, the new scheme makes no provision for teaching mere manual dexterity. "It appears to your executive committee that, except in some very special instances, such as the introduction of a new industry, or the revival of an old one, the companies should not endeavour to improve the technical knowledge of those engaged in the manufactures of this country by teaching the workman to be more expert in his handicraft. . . . Except in special cases, it would be unwise to establish any place for teaching the actual carrying out of the different trades—that is to say, a place in the nature of a model manufactory or workshop—or to provide instructors, for instance, in sawing and planing, and in chipping and filing; but they advise that the direction to be pursued should be one which will give to those employed in manufactures the knowledge of the scientific or artistic principles upon which the particular manufacture may depend." The expediency of establishing a technical library,

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museum, and laboratories was also submitted for the consideration of the committee's advisers, who unanimously negatived the suggestion—except, of course, in so far as collections of books, and apparatus, and class laboratories were concerned. These are obviously indispensable; but the formation of central collections was held to be inadvisable, and nothing of the kind is proposed. As to examinations, there seems to have been some little diversity of opinion. The committee have determined that periodical examinations shall be held in the central institute, as well as in the trade schools; and that prizes shall be awarded, and certificates of merit issued, in connection therewith. As to the rest, the "committee trust that the livery companies of London, desirous of improving technical education, will see fit to contribute a sum of not less than 20,000*l.* per annum for such object." This, no doubt, will be done; and, as the representation of the different boards is to depend in great measure on the amount of their contributions to the funds, there is every probability of the wealthier guilds contributing sums which will go considerably beyond this, if all should go as favourably as is expected.

SECONDARY EDUCATION IN ENGLAND.

A most important step towards the organization of Secondary Education in England has been made in the bill introduced in the House of Commons by Dr. Lyon Playfair on the 13th March last, when it was read a first time. The Bill is declared to be "for the Organization and Registration of Teachers engaged in intermediate education in England and Wales." The following is a brief summary of its principal provisions. It is not intended to apply to Scotland or Ireland, nor to any of the seven schools mentioned in Section 3 of the Public Schools Act of 1868, nor to any public elementary school, whether under a school-board or otherwise, coming within the operation of the Education Act of 1870 and the Acts amending the same. A corporate body, called the Educational Council, is to be established, consisting of 16 members, of whom the Education Department, the Universities of Oxford, Cambridge, and London, and the College of Preceptors shall each elect two, the remaining six being persons who have had experience in teaching, to be nominated in the first instance by the Queen with the advice of the Privy Council, and subsequently elected by the general body of registered teachers. Of the latter six two may be women. The functions of this Council will be the organization and registration of teachers in schools under the Act, the inquiring into and reporting on the courses of study and examinations required of these teachers, the examination, where necessary, of teachers, and the performance of such other duties as are in this Act mentioned. The qualifications requisite for being placed upon the register are—(1) that the applicant shall

be 21 years of age; (2) shall be a graduate by examination of any university which the Council may consider sufficient for the purposes of the Act; or (3) hold a certificate by examination of the Education Department, or (4) of the College of Preceptors, or (5) from the Educational Council itself, or (6) a certificate of having passed a special examination of any university in the United Kingdom, attesting the fitness of the holder to practice as a teacher, or (7) of having satisfied the Educational Council of fitness for registration as a teacher of a special subject; or, finally, is at the passing of the Act *bond fide* engaged as a teacher in a school under the Act. After a date to be fixed by Order in Council, the last-mentioned shall cease to be of itself a qualification. Teachers from public elementary schools which have been declared "inefficient" by the Education Department may not be placed on the register. Evidence of good moral character, and a statutory declaration of the applicant as to his, or her, qualifications, may be required. Elementary schools under the Act, if the head teacher be registered, are to be deemed "efficient." After a certain date unregistered teachers will not be entitled to recover fees. Applicants for registration before January 1st, 1881, are to pay a fee of £2, and after that date a fee of £5. The register is to be annually issued, and an annual report is to be made by the Council to Parliament. The Bill is backed by four well-known names—Dr. Lyon Playfair, Sir John Lubbock, Lord Francis Hervey, and Mr. Arthur Mills, chosen, two from each side of the House, with the evident intention of divesting the Bill of the character of a party measure. We note with satisfaction that the London *Times* of the 10th April has an article in general approval of the Bill, though at a later stage we have no doubt it will meet with much opposition.

SIR A. HOBHOUSE ON EDUCATED NATIVES.

Sir Arthur Hobhouse, formerly legal member of the Governor-General's Council has been delivering a lecture in England upon British rule in India in the course of which he thus referred to the subject of education:—

What is to be the result of this great stimulus to the Indian intellect? It is too early to speak with certainty. "Great political danger," says one school of thinkers; and that a school which at the present moment appears to be in much favor. We are, it is said, forging a weapon which may scatter our dominion in pieces. But the statesmen who resolved to do all that in them lay to promote education set aside the notion of political danger. In the first place, they held that an intelligent people are not so dangerous to deal with as an ignorant one; they considered that "the general diffusion of knowledge is inseparably followed by more orderly habits, by increasing industry, by a taste for the comforts of life, by capacities to acquire them, and by the growing prosperity of the people."

That a liberal education was likely to create a demand for office on the part of the persons so educated, was clearly foreseen. In fact, one of the objects contemplated was not only to produce a higher degree of intellectual fitness, but to raise the moral character of those who partake of its advantages, and to supply you with servants to whose probity you may, with increased confidence, commit offices of trust. But above and beyond these speculations on direct political results, it was held that it is our duty to give to our subjects the best influences we have to impart, in the sure and certain faith that great spiritual influences will work for good, though in what exact mode, we cannot foresee. And the best thing we have to give them is that education which the Government in 1854 declared its desire to see extended in India—"that which has for its object the diffusion of the improved arts, science, philosophy and literature of Europe; in short, of European knowledge." The question, whether or no, we ought to continue this policy, is really the question at what object we ought to aim. "Make the Indian intelligent and capable of national views," say some, "and we shall be no longer able to govern them." "Make them such a nation, if only it were possible," I would say, "and we shall have done the noblest work that ever was done by a conquering people." It is the old secular ever-recurring question between dominant and subject races and classes. The planters of the South American states would not teach their negroes to read or write; I believe, in some states it was penal to do so, lest they should become too intelligent for slavery. I am old enough to remember when grave arguments were delivered in this country against educating the poor, for fear it should make them "above their station." At all times large sections of the dominant class have declared of the subject one that it is not fit for enlarged ideas or privileges, and will make a bad use of them, if acquired. At this moment it is alleged, with much error and exaggeration I think, that native Indians are not fit to hold high office in our Government. At this moment, many Europeans in India are delighted when they can catch some conceited young man, and hold him up as a fair specimen of an Indian under the new education. At this moment, the free expression of Indian thought through the vernacular Press has been put under restraint. I know as well as any man that India is not England, that in many details and methods, government there must differ from government here. But there is a great deal of human nature about Indian men as well as about Englishmen, and broad moral and intellectual principles are as sound in Asia as they are in Europe. I hold that the end and object of government should be the same in both continents—that is to say, not for the governors but for the governed; not to benefit a class, not even to perpetuate any particular form of government, but to elevate and strengthen the people, to help them to grow to the full stature which their faculties permit. That we ought, for the benefit of the people at large, to remain rulers in

India, that if we govern with unselfish purpose and with ordinary wisdom, we shall remain rulers there for a period of time quite beyond the present scope of practical statesmanship. I cannot conceive to be doubtful. It is quite a different thing to say that we ought to govern with an eye to perpetrating our dominion for ever, and to keep the people weak in order that we may rule over them. That is the old heathen pinciple of government; *divide et impera*; the selfish principle of government for ourselves, not for them. And I would scan very narrowly all proposals to fetter the free play of mind or action in India, because though they may possibly be justified by special circumstances, they very seldom are so justified; they are the common resource of those who wish to govern with the least expenditure of thought and wisdom, and they are suspiciously in accord with the selfish theories of empire.

THE QUALIFICATIONS OF THE TEACHER.

(*Concluded from page 90.*)

I do not pretend to discuss this theory; at present it is only a theory but a probable one, because based on propositions which nearly all biologists admit. The science of education, as I have said, is dependent primarily on the researches of other sciences, and has to adopt tentatively their latest and best-examined conclusions. But I contend, in adopting them, it reflects light on them and tests them. For instance, since writing this last sentence, I was watching yesterday a pupil who at the moment looked like his ordinary self, then a new idea started from within, diffusing itself over the face as a smile—the face was instantly changed into a *facc-simile* of an elder brother; it was the brother's face apparently, only smaller. Mr. Galton's theory does not meet this; you have the same material particles you had two seconds earlier—you have to deal with motion, with a force. Granted the theory is incomplete or erroneous, yet to the teacher there still remains the fact of the likeness or unlikeness of his pupils to their brothers and sisters and parents. He is bound to seek, and he naturally turns to seek (provided he gives his attention to character at all) the explanation of the characteristics of the brother in those of the other. The parent too—and he never errs more atrociously than when he does so—will compare one child with another. The difference between the teacher and the parent who err in this way, and the teacher who knows how little he really knows, and seeks to increase his knowledge by each fresh advance in biology, is "*toto cœlo*." It is not that for the former there is no science of education, and for the latter there is a science for both, but for the former it is summed up in their own small experience and their still smaller analytical investigations.

Mr. Galton's explanation of the similarity and dissimilarity between brothers and sisters is this—the "stirps" are nearly alike because the germs of which they are composed are simple organisms.

and as such breed true to their kind; but the structures developed from the "stirps" are different. He likens this to a political constituency. If the constituency is very varied—where the constituency is the "stirp" and the electors the germs—we often find that, though there may be little variation in the electoral body, slight changes will affect the political choice or, in our case, the developed structure is different. Mr. Galton has devoted a good deal of attention to twins, and he comes to the conclusion generally that, when "nature and nurture" compete for superiority on equal terms, the former proves the stronger. By "nature" he means "all that a man brings with him into the world;" and by "nurture," "every influence from without that affects him after birth." It will be seen that Mr. Galton's "nurture" and my "education" are by no means the same thing. I cannot, however, stay to point out the difference, though it would be highly instructive to do so, because Mr. Galton, in his "English Men of Science," has accumulated a considerable body of fact—valuable fact; and has, indeed, done with a few remarkable men what I ask shall be done more extensively, more systematically, and more continuously, by a vast body of teachers, under direction, with a vast body of children in various countries and under various circumstances. I do not hold that the science of education is to be *developed* on this method. No; it is essentially a deductive science, but it will receive corroboration, and test, and guidance, from the facts thus amassed. As a deductive science merely, its sterility is sufficiently illustrated by Professor Bain's recent contribution in "Mind," and how little facts will do of themselves, though nature teems with them, is sufficiently exhibited by the ordinary teacher's practice every day. In truth, Psychology is not the science of education, any more than Empiricism is the art of education. A very instructive example occurs incidentally in Mr. Galton's book. He finds that the number of children of the scientific men is clearly a diminution of the number of their parents' children. There is some difficulty in making a comparison between the two sets, and the number of instances investigated is not large; but, making all allowances, there is a positive deficiency of fertility, which we will call *d*, to be accounted for. Mr. Galton finds a difficulty in explaining this on his Inductive Method. To quote his own words, "I shall show that the health and energy of scientific men are remarkably high; it therefore seems strange that there should be a falling off in their offspring." "I have tried," he says, "in many ways to find characteristics common to those scientific men whose families were the smallest, but have only lighted upon one general result, which I give provisionally, namely, that a *relative* deficiency of health and energy, in respect to that of their parents, is very common among them." Now, I think I can show that his provisional explanation could have been arrived at as regards one point, *energy*, by deductive considerations; and the question may fairly be raised how far *health*, as apart from *energy*, is an explanation at all.

If I show this, I think I show that there are principles which make up a science of education, and that the examination of individual cases, and the tabulation of them on Mr. Galton's plan, confirms, checks, and establishes such principles, which then become a body of doctrine for teachers to apply to their practice. "*Condo et compono, quæ mox depromere possim.*

This is my deductive explanation. Take two propositions:—

(1) Mr. Galton himself points out that the leading scientific men are endowed with great energy. It is their chief characteristic—it shows itself in all sorts of forms—they will insist on acting and doing, never resting, from childhood upwards—there is a superabundance (as it were) of vital energy which must and will find vent. The scientific men have turned it in the direction of science, and are eminent in consequence.

(2) The total vitality for an individual is a certain and pretty constant quantity; use it in one direction, and you withdraw it from another.

Bain says, "We are apt to be carried away with a vague notion"—these vague notions form the present Science of Education—"that there is no limit to acquirement except our defect of application, or some other curable weakness of our own. There are, however, very manifest limits. We are all blockheads in something." Fancy a Head Master a blockhead (Oh, boys, if you knew this!—fancy a Head Master, a 3rd Wrangler, who is Head Master *because* he is 3rd Wrangler, a blockhead in something, say Teaching, because he has given his all in the other direction, and was pumped out in the Senate House. "Some of us," continues Bain, "fail in mechanical aptitude, some in music, some in languages, some in science"—("nothing like Classics," say the Public-school men). "Memory," Bain goes on to add, "in any one of these lines of incapacity, is a rope of sand; there must be in each case a deficiency of cerebral substance for that class of connexions." What is true of cerebral substance is true, of course, of other substance.

We see, then, that each individual has a certain vitality, sometimes rather above and sometimes rather below par; and though we cannot alter this, we can vary its distribution and direction. Now bearing in mind that the brain receives one-fifth of the blood-supply, it seems pretty clear that what the scientific men have done is, not merely to devote their superabundant energy to Science, but, carried away by its fascination, they have drawn on the capital in the bank; in other words, they have sent on to posterity not *a* children, but *a*—*d* children, with the bequest of the extra knowledge that *d* represents; at the same time they have not so far drawn on the capital as to endanger efficiency. In so far, then, as the knowledge bequeathed tends to make the *a*—*d* children healthy, wealthy, and wise, they have practised a true economy. Will not this solve the population question—put your family into your brains, and your brains into your family?

A friend of mine recently reproduced the argument of some of his acquaintance (of which I will make my opponents to-night a present) against a Science of Education. It was this—"There is no Science of Education, because its principles have never been formulated." As stated, it is too absurd for serious discussion; one can only say that the fact of Balaam not seeing the angel did not prove non-existence,—his fellow-traveller did, which was a crime to Balaam. The principles of the Science of Education may be standing in the path of these gentlemen, and needing only their skill to formulate them. But state it thus, "There are no principles to formulate," and I disprove it by the one principle I have just been exemplifying. My belief is, that one could show that nine teachers out of ten (I know I am one of them) blunder nine days out of ten with nine pupils out of ten, by ignoring or forgetting this very principle. At what point and for what class of individuals will *energy* directed towards games aid and not retard intellectual culture? Surely this is a very practical and a very pretty rider to the proposition. Will anyone in his senses pretend that the Public-school answer to it is an economical one? How far does success for the "Barbarians" and defect for the "Philistines," weaken our national vigour? That is a practical question, and a big enough question, and one that we must soon answer if we are to economise and readapt our national mental power, as, depend upon it, we must ere long if we are not to lose our trade, and the British parent is beginning to withdraw his understanding from his breeches'-pocket to his brain on this question, which he does believe in. If teachers be wise and united, and therefore unselfish (they cannot else be wise), their day is coming through this intellectual movement of the British parent. Whether this is to signify renewed belief in education as a real power, or whether it means keeping little Johnny Bull at home for a term or two to economise, depends on us teachers ourselves.

On the subject of growth, time will not permit me to say much; moreover, Physiologists are unfortunately almost silent on this important point. I shall be much indebted to those of my audience who will direct me to any authors of value on the subject. Physiologists (and the same is true of Psychologists) give us generalisations from a series of photographs; they stop the machinery for the moment while they record the phenomena, but the teacher is specially concerned with the machinery in motion and the motion of the machinery. Since we cannot get continuous change accounted for, we must increase the number of periods, and therefore lessen the time of each period assumed static. What we want, then, is the mental and bodily physiology at certain well marked periods of the pupil's growth showing tendency, both morbid and healthy.

There are, nevertheless, two fundamental facts to which I must very briefly direct your attention—(1) Nutrition, (2) Disturbance.

I have dwelt upon the never-ceasing waste of the body, the large supply of blood to the brain, and the necessity for keeping up the

par of vitality. But we must remember that with youth we have not only these facts to bear in mind, but we must not forget the very considerable nutrition necessary for building up as well as maintaining and restoring. The food-supply, then, should be highly nutritious and very liberal; it may be too rich, it can easily be too poor, but it cannot be too good or too liberal, unless it be poor as well as liberal. What, on the first blush, sometimes looks like gluttony with youth, I think, is analysable into (1) this large and imperative demand of nature; (2) injudicious check; (3) misdirected imagination.

I believe that not only are food, rest, and exercise necessary to growth, but some considerable excitement; and if this be withheld, the imagination, at certain periods so strong and so vivid, will run riot in the matter of food as otherwise. But I must not weary you with pursuing so extensive a subject.

Of *disturbance* I will only say that at periods of transition—periods of intensified motion—*growth* disturbs the equilibrium between Body and Mind. There is one important period—that between puberty and maturity—which has obtruded itself on the teacher's notice, when defective balance inevitably leads to consumption and other evils. But what is true of this important period is true, *mutatis mutandis*, of other equally important but less obtrusive periods. It is at some of these transitions that the teacher finds his most trying problems, when his ordinary means and skill seem utterly to fail him. I have spoken of the mischief of ignorant parental interference, and at times, like David, who, in his wrath, found that all men were liars, I have felt that it would be well for education if the parent were blotted out, or reduced to a mere cheque-signing machine. But at these trying times the parent's function comes back with full force. When the teacher's knowledge and skill despair, the parent's loving instinct hopes on. The parent's belief in his (or rather her) child no shock can undermine, it is too deep; no shadow can overcast, it is too bright; no force can overwhelm, it is too strong; no sneer can harm, it is too sacred. If divinity doth hedge a king, surely it illumines parental love. In truth, the peace and rest of the child in the mother's love is the nearest human approach to "that peace which passeth understanding."

I have thus sketched out, but very imperfectly, the work the teacher has to do. I leave his qualifications to your reflexion and inference, contenting myself with saying that he must know the forces he has to work—the forces that are available for a purpose which he has definitely conceived, and that he must have skill as well as knowledge to attain his end. That skill will come partly from innate power, and partly from training; without the one he should not enter the arena, without the other he beats the air.

I expect to be told, on the one hand, that I ask too much of the teacher, and, on the other, that all I ask is to be met with in every teacher, at least, who wears a hood or a cassock. I am willing to discuss either alternative, but I cannot accept both.

EDUCATION AS A SCIENCE.*

"At a certain turn of life, or at a certain stage of success, most "men are liable to find their faiths becoming formulas; they begin "to lead the unexamined life which is not fit to live, and, which "tends to the heavy stupidity against which they have been wont to "protest. *Craftsmen must be always sharpening their tools and learn-* "*ing to use new tools; if not, the journeymen soon overtake them, and* "*they themselves sink to the journeyman level.*"

This quotation, which is not from Mr. Bain, will help us to explain to our readers what we take to be the main use of such treatises as the one before us. Teachers, those especially who have reached "a certain stage of success," are apt to be intolerant of books, on teaching. *They* did not learn their art from books, and if by any chance they are led to open such a book as this, they look rather for "theoretical absurdities" than for any hints that might improve their own practice. But a careful investigation of the whole subject of education, when conducted by such a man as Professor Bain, is a strong protest against the "unexamined life which is not fit to live," and as such it deserves a hearty welcome from us. There are no craftsmen more in danger of sinking to the journeyman level of mechanical routine than teachers in schools. If they would from time to time read a good treatise on education, and without either sitting at the author's feet, or, on the other hand, endeavouring to expose his absurdities, simply compare his ideas with what they are doing, and what they are endeavouring to do, they would find that there is some use in books after all, and that the unexamined life is full of danger both for themselves and their pupils. Mr. Bain's book is not in all respects what we could desire; there are certainly some grave defects in it; but it does map out the ground for us. As Mr. Bain himself says, it is directed rather against confusion than against error; and if it does not tell us what to think, it at least shows us what to think about. In drawing our attention to important problems he renders us a great service, even when he cannot solve them for us. *Prudens quæstio dimidium scientiæ*, and even *sapientiæ*.

That the book is a somewhat heavy book is past all possibility of dispute. We read some books, as Professor Meiklejohn well says, not for information, but for inspiration. Let no man go to Professor Bain for inspiration.* We might as well go for grapes to Greenland. The emotionless attitude of mind is, perhaps, the one best suited to scientific inquiry; but feeling gives to the landscapes of the mind's eye a charm similar to that which the bodily eye finds in colour. Mr. Bain's readers have nothing but colourless and therefore somewhat dreary prospects. As Mr. Bain himself remarks: "Mankind would not be contented to see the bench of justice occupied by a calculating machine that turned up a penalty of five pounds or a

* Education as a Science. By Alexander Bain, London, Kegan Paul, 1879.

month's imprisonment when certain facts were dropped in at the hopper." The treatise before us seems to deal with the whole work of the educator as the suggested machine would deal with the administration of justice; and in the emotionless treatment of the emotions there is to most minds something very repulsive.

The heaviness incident to the nature of the work might no doubt have been relieved by the use of more copious illustrations, both in the way of simile and also of instances in which the general law laid down might be seen at work. But concrete instances have their drawbacks. Science lecturers often find that experiments rather interfere with the reception of principles. The audience is lost, so to speak, in the spectators; the lecturer in the showman. The same thing is true, to some extent, of more verbal illustrations. When the mind is presented with an image it receives it with ease, and usually with pleasure; but an abstract idea cannot be apprehended without effort. So the illustrations often absorb the attention of the reader, and give him the notion that he understands the thought when he really only understands the illustration. To the student who seeks not pleasure but profit there are compensations for the dulness incident to an abstract form of statement.

There is a very marked difference between Mr. Bain and other eminent writers on education. We have already implied that Mr. Bain is without enthusiasm. Most educational writers are enthusiasts. They have their pet truths, which are often but partial truths, and they expect vast results to follow from these truths obtaining more general acceptance. Mr. Bain throughout the greater part of his book adopts the tone of an impartial observer, whose function is to expose every kind of extravagance. Thus he deals with various definitions of education. Even the definition given by John Stuart Mill is declared to be "grandiose rather than scientific: nothing is to be got out of it." For the purposes of this treatise Mr. Bain takes education to mean "the arts and methods employed by the schoolmaster;" and for fear the schoolmaster, who by this definition becomes emphatically the educator, should overestimate his importance, Mr. Bain is careful to remind him, "that the utmost we could expect of the educator, *who is not everybody*, is to contribute his part to the promotion of human happiness" (p. 3).

"It is a part of scientific method," as Mr. Bain well says, "to take strict account of *leading terms*, by a thorough and exhaustive inquiry into the meanings of all such." We could have wished that the professor had thus dealt with his own leading term, *Science*; for the word is not rescued from vagueness when it is declared to be an equivalent for "the exact study of nature" (p. 68). We infer that by the science of education Mr. Bain understands "the best attainable knowledge on" education (p. 9); and this knowledge "is due to a combination of general principles obtained from the sciences with well-conducted observations and experiments made in actual practice." In this case we need to know what are the general

principles obtained from the sciences, and what are the main results of experience. No one is better qualified than Professor Bain to give us the general principles obtained from the sciences. But it should be made clear whether a statement is really a principle, or only a "probability." For instance, physiology announces the doctrine of "the physical basis of memory," *i.e.*, "that memory reposes upon a nervous property or power sustained, like every other physical power by nutrition, and having its alternations of exercise and rest." From this we have it laid down that the interests of muscle and brain, and of emotion and thought, are, except in the early stages of development, antagonistic. These seem to be "physiological probabilities." They may be useful in guiding our observations, but unless they are confirmed by experience they cannot be allowed to regulate action. Whether muscular strength is really opposed to intellectual is a most interesting question, and as yet experience gives an uncertain sound. That the school athletes are not as a rule great thinkers is certainly a fact thoroughly established by experience independently of all physiological probabilities; but it is a fact easily accounted for without reference to the physical basis of memory. Many a lad would rather be in the School "Eleven" than gain a Balliol Scholarship, and in this case his mind, or, as Carlyle would call it, his "superabundance for salt," is naturally diverted from his studies. But is it a physical fact that no one can be distinguished by prowess both of mind and body? This would seem the natural inference from physiological probabilities, and this inference is not borne out by experience. In the public schools it is found that, though the athletes are often stupid and the scholars are often weakly, there are some boys of intellectual activity and force who nevertheless are "good at games." The same is true of students at the Universities. Good cricketers and distinguished "oars" seldom gain scholarships and fellowships, but first-rate pool players are at least as unsuccessful. Cricket as compared with boating makes greater demands on the brain and less on the muscle. Physiological probabilities would give the intellectual superiority to cricketers, but experience has vindicated this distinction for the boating men. Some instances of "good oars" becoming celebrated in other ways are well known. Every Oxford man will naturally think of Mr. Chitty, famous on the river both at Oxford and Putney, and also a "double-first" man a very successful barrister. At Cambridge a senior classic, Mr. Macnaghten, was in the University boat, and won "the Sculls." Scotchmen delight in talking about the physical force of Professor Wilson, better known as "Christopher North." A single instance of this kind is sufficient to prove that the union of physical and intellectual excellence is no physical impossibility.

The portion of Mr. Bain's book which will attract most attention is the account he gives of the bearings of psychology. Many years have elapsed since Dugald Stewart asked, "Would not education be

necessarily rendered more systematical and enlightened if the powers and faculties on which it operates were more scientifically examined and better understood?" But in England the philosopher has as yet done little for the schoolmaster, and the schoolmaster is far too busy to turn philosopher. Now at last an eminent authority on mental science has turned his attention to the arts and methods of the schoolmaster and to the influence which psychology should have upon them; and those schoolmasters whose heart is in their work will go to Mr. Bain in the hope that he has made education "more systematical and enlightened."

The first principle he lays down seems to us a very important one. "Mind starts from discrimination. The consciousness of difference is the beginning of every intellectual exercise" (p. 5). All teachers have some notion of this, but as a rule by no means a clear notion. And the principle as laid down by Mr. Bain is far in advance of the old adage, "*Qui bene distinguit, bene docet.*" According to that it is the teacher who distinguishes, but according to Mr. Bain it is the *learner*. The practical value of this truth is self-evident. The teacher must "note the ways and means of quickening and increas-"ing the discriminating aptitude. Bearing in mind the fact that "until a difference is felt between two things intelligence has not "yet made the first step, he is bound to consider the circumstances "or conditions favourable or unfavourable to the exercise" (p. 17). When he has once realised to himself that the observation of differences is an intellectual employment, the teacher sees directly how to set the minds of his pupils in motion. He takes what is new to them, and makes them compare it with what is already thoroughly familiar. They note the points of difference, and thus "teach themselves."

We next come to the Retentive Faculty, and to this Mr. Bain attaches at least its due importance. "It is," he tells us, "the faculty that most of all concerns us in the work of education." This is not the only instance in which Mr. Bain's authority may be quoted by the ordinary use-and-wont teacher against would-be reformers. The reproach generally directed at schoolmasters is just this—that they concern themselves first of all with the memory. And if it be said that by the retentive faculty Mr. Bain means something different from mere memory, no proof of this can be found in Mr. Bain's own statements. Indeed, he seems to approve of "the good old rule of the schoolmaster, simply to make the pupil repeat, rehearse, or persist at a lesson until it is learnt" (p. 21). The reformer would call in psychology to curse his enemy, and lo! psychology, as expounded by Mr. Bain, blesses him altogether.

"There is still wanting a careful study of the whole subject," says Mr. Bain, and seeing that the retentive faculty is the faculty most used in education (and rightly so, according to our professor), we cannot but wonder that this careful study has not been made long ago. Mr. Bain is conscious that the last word on the

subject has not been said by him, and we certainly should have looked for more help from psychology than is given us in this book. Great attention must be paid, we are told, to the physical condition of the learner, and this condition will be best suited for acquiring in the morning and in the winter (?). Concentration is dwelt upon, and here again our use-and-wont instructor will be pleased by the scientific announcement that "All the great teachers, from Socrates downwards, seem to recognise the necessity of putting the learner into a state of pain to begin with." Do they indeed recognise the necessity? To Mr. Bain they seem to do so, but to us, judging from what little acquaintance we have been able to make with the thoughts of the great teachers, they seem to do nothing of the kind; and though Socrates found it expedient to disturb the intellectual fool's paradise of the Athenians by irritating questions, this can hardly be quoted as a precedent for making schoolboys unhappy over their Latin Grammar or Natural Sciences. Perhaps Mr. Bain does not really intend thus to quote it; for he goes on: "A moderate ex-"hilaration and cheerfulness, growing out of the act of learning "itself, is certainly the most genial, the most effectual means of "cementing the unions that we desire to form in the mind" (p. 29). But punishment for want of application is necessary, in Mr. Bain's opinion, with the generality of scholars.

Froebel, according to Michelet, was the greatest of educational reformers, and for this reason—he it was who first looked on a human being not as a learner but as a creator. So education, as Froebel conceives of it, is the drawing out of the active and creative powers rather than the receptive. Mr. Bain's theory of education is more old-fashioned. With him "constructiveness" has but a subordinate place, and "the culture of the creative faculty" is not comprised in "Education as a Science." Still he reminds us that "in many parts of our education the stress lies not in simple memory, or the tenacious holding of what has been presented to the mind, but in making us perform some new operation, something that we were previously unable to do" (pp. 40, 41). But "the psychology of constructiveness is remarkably simple" (p. 41), and only two pages out of 450 are devoted to it. The chief lesson inculcated is the following:—"Before entering on a new exercise we must first "be led up to it by mastering the preliminary or preparatory "exercises. Teachers are compelled by their failures to attend to "this fact in the more palpable exercises, as speaking and writing. "They lose sight of it when the succession of stages is too subtle "for their apprehension, as in the understanding of scientific "doctrine" (pp. 41, 42). "Perhaps we may have learnt the pre-"requisite movements in a way, but not with sufficient firmness "and certainty for securing their being performed in combination" (p. 44). This may seem very obvious truth, but it is very important truth for the teacher, and not so obvious but that it is frequently disregarded.

We have already observed, that the emotionless treatment of the emotions is by no means a pleasing exhibition; and to judge from some of Mr. Bain's remarks on the Culture of the Emotions, it is not more devoid of pleasure than of profit. For instance, this is what Mr. Bain tells us about laughter:—"A signal illustration of "explosiveness is furnished by laughter, which has both its original "causes and its factitious or borrowed stimulants. This is an "instance where the severity of the agitation provokes self-control, "and where advancing years contract rather than enlarge the sphere. "As the expression of disparaging and scornful emotions its cultiva-"tion has the facility of the generic passion of malevolence" (p. 55). Before going any further the reader will probably require of us a promise to quote no more on the Emotions. This part of the Professor's book, however, demands a very careful study, for in treating of "the emotions" he discusses most of the motives which bear upon conduct. Thus we have "the Social Emotions" and "the Anti-social," "the Emotion of Power," "the Emotions of Self," "the Emotions of Intellect," "of Activity," "of Fine Art," and finally, "the Ethical Emotions." It may well be questioned whether this nomenclature is satisfactory; but the teacher who will be at the pains of carefully mastering Mr. Bain's analysis, will get a notion (which few teachers now have) of the delicate and complicated task before him. Those who say they get on very well without any such notion, talk after the manner of the village barber in days gone by, who "doctored," and operated with great satisfaction to himself, though he had not any notion of anatomy or physiology.

Under the "Emotions of the Intellect," Mr. Bain considers how knowledge becomes interesting. The difficulty to be overcome is the common repugnance to intellectual labour, and without such labour we cannot master abstract truths. "As a rule, particulars "are interesting as well as easy; generals uninteresting and hard. "When particulars are not interesting, it is often from their being "overshadowed by generals. When generals are made interesting, "it is by a happy reflected influence upon the particulars. It "would serve nearly all the purposes of the teacher to know the "best means of overcoming the repugnance [to?] and the ab-"stractness of general knowledge" (pp. 81, 82). The learner must be led gradually upwards through the study of individuals, till he is rewarded with "the emotion of exhilarating surprise at the discovery of likeness among things seemingly unlike." "The "first flush of the recognition of a common power in the motions "of the planets and the flight of a projectile on the earth was "unutterably splendid, and after a hundred repetitions the emotional "charm is unexhausted" (p. 85).

One of the most characteristic and important sections in this book is on "the Emotions of Activity." This, as we all know, is the one great crux for the teacher—how to get his pupils' minds to work. The general accusation against us is that we content our-

selves with exercising our pupils' memories; if they remember what we or their books tell them, we are quite satisfied. But to understand the force of this accusation, we must examine the different ways in which the mind may deal with the same statement. "The three angles of every triangle are together equal to two right angles." This statement a pupil may "know" in at least four different ways. 1st. Without having any conception of an angle, he may know the words. In this case he remembers only a certain sequence of sounds. 2nd. He may understand what the words mean, and may remember not the words but the truths they state. Here the conceptive faculty is called into play, but nothing more. If the statement had been "greater than" instead of "equal to," the conceptive faculty would not have detected the error. 3rd. The mind may have the proof put before it, and may follow all the steps. The learner now knows this truth; it is no longer a mere conception, perhaps true, perhaps false. 4th. The mind may have made out the proof for itself. In this case, a higher set of powers have been called into play, and, although the mind cannot really know the truth better than in the previous case, the mind will have laid a more lasting hold upon it. Now, some of the more enthusiastic educational reformers expect the teacher to be constantly drawing out the powers of the learner's mind as they are drawn out in the last case. Of course only young Pascals can find out, unaided, such truths as the one we have quoted, but it is assumed that the pupils may be, so to speak, pushed into the right path, and that they will then seem to discover it. There is to be no "telling," and in spite of the Baconian maxim, *Discentem credere oportet*, the pupils are to take nothing on trust. Against these reformers, Mr. Bain holds that the method of investigation cannot be kept to in the greater part of our learning, and that, though the skilful teacher may at times put facts before his pupils and lead them on to draw the desired conclusions, such occurrences can happen but rarely. "All this," says Mr. Bain (very happily, as it seems to us), "belongs to be occasional luxuries, the bon-bons of teaching, and cannot be included "under any daily routine" (p. 95). And, although the attitude of deference to authority is not one which Mr. Bain would encourage, he can nevertheless be just to the motive of sympathy, affection, and admiration for superior wisdom, which gives "a zest "in receiving what is imparted and jealously restrains any indo- "pendent exercise of judgment, such as would share the credit with "the instructor" (p. 95). Indeed, in this part of the book, Mr. Bain seems to us over-tolerant of mere passive receiving, which is sure to be too common even without his protection. We demur to his statement, that "listening and imbibing constitute a mode of activity." To us John Henry Newmann's warning seems more profitable: "A man may hear a thousand lectures, and read a thousand "volumes, and be, at the end of the process, very much where he was "as regards knowledge. Something more than merely *admitting* it,

"in a negative way, into the mind is necessary, if it is to remain "there. It must not be passively received, but actually and actively "entered into, embraced, mastered. The mind must go half-way to "meet what comes to it from without" (*Idea of a University*, p. 489). "Mr. Bain does not indeed contradict this, but when he says that "listening and imbibing constitute a form of activity," his mode of expression seems to us questionable, and even dangerous.

The fourth chapter is devoted to explanation of terms, and certainly "the importance of a preliminary clearing-up of leading terms" can hardly be too highly valued. That such a "preliminary" investigation should be found well on in the work strikes us as an odd and not very convenient arrangement. Heartily do we agree with Professor Bain in his dislike of phrases which are not clear enough to afford definite guidance. We have heard of a Lutheran clergyman who added to his prayers for deliverance from other machinations of the enemy, "*Behüte uns auch vor Redensarten!*" Mr. Bain, too, is aware of our danger in this respect, and does us good service in putting us on our guard against it. "Proceeding from the known to the unknown," "*Non multa, sed multum*," &c. &c., may mean something, but, as used, they often mean nothing. Of "analysis" and "synthesis," Mr. Bain well says: "To express "the conduct of any school lesson under either of the terms "'analysis' and 'synthesis,' is to produce the utmost confusion in the "mind of a young teacher;" and sometimes, we may add, not of the young teacher only. Dr. Hodgson somewhere mentions a boy who, when asked for the meaning of "wholesale," said it meant "retail," and the present writer remembers having seen a pamphlet on teaching, in which the author, whenever he spoke of "synthesis," apparently meant *analysis*.

(*To be continued.*)

NOTICES TO CORRESPONDENTS.

Civis sends some pertinent criticisms on "The School Boys' Guide," a book of idioms, phrases &c. We cannot make space for the letter. No one can write a trustworthy guide to the idiom of a language which is not his mother tongue.

M.R.Y.—Not suitable for our columns.

☞ *The Editor invites communications on subjects connected with Education, and also contributions of Educational Intelligence in the shape of reports of meetings, school examinations, &c., from all officers of the department, and from other persons interested in Education. Schoolmasters in particular are invited to make free use of the correspondence columns of the "Record" for the interchange of experiences, and the mutual elucidation of difficulties connected with the management of their schools. It is hoped, too, that students will avail themselves of the opportunities offered by the "Record" for the discussion of points of scholarship in Philology and Mathematics, and the communication of "Notes" on their various subjects of study.*

EDUCATIONAL STATISTICS OF BOMBAY PRESIDENCY.

The following three tables, which give the Schools and Scholars of the Presidency, as distributed among the five Educational Divisions, will not be found elsewhere, and as they are of permanent value, we place them on record:—

I.—*Total of Schools and Scholars.*

		No. of Schools.	No. of Scholars.
Central Division	1875-76	1,249	73,647
	1876-77	1,221	68,958
	1877-78	1,150	65,415
North-East Division	1875-76	661	35,505
	1876-77	629	33,860
	1877-78	618	33,359
Northern Division	1875-76	1,524	85,878
	1876-77	1,578	90,557
	1877-78	1,629	97,913
Southern Division	1875-76	775	38,969
	1876-77	783	40,029
	1877-78	786	35,869
Sind	1875-76	271	16,713
	1876-77	262	16,037
	1877-78	234	15,584

II.—*Averages for 1877-78.*

	Average number of square miles to each school.	Percentage of scholars to population.
Central Division	24·84	1·05
North-East Division	40·43	1·31
Northern Division	32·32	1·34
Southern Division	30·69	·79
Sind	199·13	·71

III.—*Schools on Local Fund Budgets.*

		No. of Schools.	No. of Scholars.
Central Division	1875-76	971	51,712
	1876-77	930	46,423
	1877-78	885	45,404
North-East Division	1875-76	635	33,851
	1876-77	593	32,150
	1877-78	597	32,029
Northern Division	1875-76	865	46,671
	1876-77	845	48,858
	1877-78	849	51,345

		No. of Schools.	No. of Scholars.
Southern Division	1875-76	507	26,160
	1876-77	500	26,851
	1877-78	508	23,316
Sind	1875-76	189	12,456
	1876-77	189	11,913
	1877-78	177	11,840

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT FROM 16TH MARCH TO 15TH APRIL 1879.

17th *March* 1879.—The unexpired portion (twelve days) out of the two and a half months' leave, without pay, granted to Mr. R. H. Gangan, Sixth Assistant Master, Ratnagiri High School, is cancelled.

22nd *March* 1879.—The unexpired portion (ten days) out of the two and a half months' leave, on private affairs, granted to Mr. K. S. Rege, Fourth Assistant Master, Ratnagiri High School, is cancelled.

24th *March* 1879.—One month's sick leave is granted to Mr. Shunker Ramchandra Bhagvant, Second Assistant Master, Tasna First Grade Anglo-Vernacular School.

24th *March* 1879.—Mr. Mahadeo Govind Wagle, Third Assistant Master, Tasna First Grade Anglo-Vernacular School, is appointed Acting 2nd Assistant Master in the same School, *vice* Mr. Bhagat, on leave.

24th *March* 1879.—Mr. Vaman Shivajee Naber, is appointed Acting Third Assistant Master in the Tasna First Grade Anglo-Vernacular School, *vice* Mr. Wagle, promoted.

26th *March* 1879.—The unexpired portion of the six weeks' sick leave granted to Mr. S. R. Bhate, Second Assistant Master, Karwar High School, is cancelled.

26th *March* 1879.—The unexpired portion (from 15th March to 17th April 1879) out of the four months' leave, without pay, granted to Mr. Paul Guneshram, Third Assistant Master, Karwar High School, is cancelled.

29th *March* 1879.—Two and a half months' privilege leave is granted to Mr. Ramakanth R. Bhende, First Assistant Master, Karachi High School.

29th *March* 1879.—Mr. Govind Keshva Sabdey is appointed Head Master of the Jagannath Shunkerset School, Bombay.

29th *March* 1879.—Mr. Gopal Moreshwar Sathe, B.A., is appointed Head Master, Tasna English School.

29th *March* 1879.—Mr. Jamiatram R. Desai, Head Master Dholka English School, is appointed First Assistant Master, Haripura Branch School, Surat.

29th *March* 1879.—Six months' leave, without pay, is granted to Mr. Karpuram M. Metha, Second Assistant Master, Gopipura Branch School, Surat.

29th *March* 1879.—Mr. Thakardass N. Dalal, Sixth Assistant Master, Broach High School, is appointed substantive *pro tem.* Second Assistant Master, Gopipura Branch School, Surat.

29th *March* 1879.—Mr. Jevnbai J. Metha, Second Assistant Master, Veramgam English School, is appointed Sixth Assistant Master, Broach High School.

29th *March* 1879.—One year's leave, without pay, is granted to Mr. Manekbram P. Patel, Fifth Assistant Master, Rajkot High School.

29th *March* 1879.—Mr. Laxmichund P. Adaljee, First Assistant Master, Goodal Anglo-Vernacular School, is appointed substantive *pro tem.* Fifth Assistant Master, Rajkot High School.

31st *March* 1879.—Mr. K.K. Kapadia, M.A., is appointed substantive *pro tem.* Second Assistant Master, Rajkote High School, during the absence of Mr. Ved, granted a year's leave, without pay.

9th *April* 1879.—Mr. Lalubhai Mathurbai, Head Master, Pahlanpur English School, is appointed Third Assistant Master, Navanagar High School.

9th *April* 1879.—Mr. Motilal Jeychund, Second Assistant Master, Ahmedabad Branch School, is appointed substantive *pro tem.* Head Master, Dolka English School.

9th *April* 1879.—Mr. Dhanvantram N. Pandya, Third Assistant Master, Ahmedabad Branch School, is appointed Second Assistant Master in the same School.

9th *April* 1879.—Mr. Marwanjee S. Kheshvala, is appointed Persian Teacher in the Branch High School.

11th *April* 1879.—Mr. S. V. Bhatkhande, Head Master of the Coompta English School, and Mr. S. M. Ankle, Head Master, Hubli English School, are instructed to change places at the end of the hot weather vacation.

12th *April* 1879.—An extension of twelve months' leave is granted to Mr. Partabrai Ramchand, Seventh Assistant Master, Hydrabad High School.

12th *April* 1879.—An extension of one day's leave, without pay, is granted to Mr. V. P. Datar, Fifth Assistant Master, Dharwar High School.

By order of the Director of Public Instruction.

NARAYAN KRISHNA,
For Head Assistant.

Poona, Office of the Director of Public Instruction,
19th April 1879.

THE

Bombay Educational Record.

No. 6.] JUNE 1, 1879. [Vol. XV.

THE MONTH.

We exceedingly regret to record the destruction by fire of the front quadrangle of the Vishrambag Palace, Poona, the home successively of the Sanskrit Path Shala, the Poona College, and the Poona High School. We understand that a movement is on foot to collect public subscriptions for the restoration of the building, and we wish it every success.

The University of Bombay has instituted a new degree, that of Bachelor of Science (B. Sc.), and has made considerable changes in the curriculum for the Arts degree. There will in future be two examinations between Matriculation and the final examination for the degree.

The Municipal Commissioner of Bombay in his administration report for the year 1878 gives details of the use to which the increased Municipal grant of Rs. 15,000 instead of the usual Rs. 10,000 has been put. He says: "I learn from Mr. Kirkham, the Acting Educational Inspector, that the increased Municipal grant enabled the Educational Department to open eight new Primary Schools, three of which are Marathi and five Gujerathi. In deference to opinions expressed by members of the Corporation, one Marathi School and four out of the five Gujerathi Schools are for girls. The increased grant also enabled the Department to hire healthier quarters for some of the schools, to improve their furniture, and in a few cases to slightly add to the salaries of the teachers by giving them what is known as 'proficiency allowances.'"

We are glad to observe that the *Indian Law Journal*, a Bombay enterprise which deserves encouragement, is winning golden opinions from those best able to judge of its merits. To the lay mind even

our contemporary presents much of interest, whilst to law students, pleaders, solicitors, and advocates its contents must be of the highest practical value.

The result of the late examinations for Gilchrist Scholarships, as reported by the Secretary of State, show that the first of these scholarships for the present year has been obtained by Joseph Adie, and the second by Parvotinath Datta, both of Calcutta. Mr. Mulligan, of Bombay, approached so nearly to Datta that the examiners had some difficulty in deciding between them. Mr. D. N. Mitra (Calcutta), Mr. M. P. Dadabhai (Bombay), and Mr. C. E. Sunder (Calcutta), all obtained marks which would have qualified them for the scholarships.

It is proposed (the *Athenæum* says) to establish in London a society bearing the name of Roger Ascham, and designed to bring into friendly intercourse those who are engaged in the instruction of the young. The objects contemplated in establishing the Ascham Society are at present limited. A reading room of the usual kind, and a library of professional and other useful works, are all that will be attempted at the outset. If the effort be successful, committees will be appointed to carry out such objects as may, from time to time, appear best calculated to exalt the profession of the teacher and advance the science and art of education. The necessary accommodation has been obtained at the Quebec Institute, Baker Street, and the annual subscription will be half-a-guinea.

The annual meeting of the committee of the Birmingham Shakespeare Memorial Library, which was lately destroyed by the burning of the Birmingham Free Library building, was held recently, under the presidency of the mayor. In the report adopted by the meeting it was stated that of the 7,000 volumes which the library contained only 500 had been saved. The unrivalled collection of the English editions of the complete works of Shakespeare, an equally valuable collection of separate plays, and the larger part of the foreign editions and Shakespeariana, had been entirely lost, together with many unique and interesting memorials of the poet and his works. The task of restoring the library, however, is progressing favourably with the help of friends in Germany and the United States; and,

including the 500 volumes which were saved from the fire, mainly through the personal exertions of the mayor, the collection numbers 1,078 volumes.

Professor Blackie reports the close of the subscription for the endowment of the Celtic chair in the University of Edinburgh, the sum raised being 11,937*l.* 5*s.* It has been agreed, on the suggestion of his committee, to postpone the appointment of a professor for twelve months, in order that the capital fund may be increased. The title of the chair is to be the "Chair of Celtic Languages, History Literature, and Antiquities;" and the professor holding it is to be bound to teach the Gaelic language practically, as long as it is "a recognised medium of religious instruction in the Highlands."

Mr. W. H. Smith, speaking in the House of Commons on the subject of increased national expenditure, referred to the large charge for education. He said that the increased charge was no doubt very considerable, and it was a subject which might require consideration. The charge for education was 1,500,000*l.* over that which existed in 1874-75. It was now 3,000,000*l.*, against 2,100,000*l.* He did not regret the experiment with regard to education, and he did not share in the expressions of many that education had increased unnecessarily; but there was a large expenditure, which would require prudent and economical management. The expenditure might have been less, and it would require to be considered whether this large expenditure should go on.

Dr. Landauer, of the University of Strasbourg, is preparing an edition of the original Arabic text of Saadyah Gaon's philosophical work (composed about A.D. 950), according to the unique Bodleian MS., and a fragment found amongst the latest acquisitions of the Imperial Library at St. Petersburg.

THE PARSI PRAKASH.

The Parsi Prakash* is an addition to vernacular literature of much interest. The two parts which have been forwarded to us are an

* Parsi Prakash, being a Record of important events in the growth of the Parsi community in Western India, chronologically arranged from the date of their emigration into India to the present day. Compiled by Bomanjee Byramjee Patell, Duftar Ashkara Press.

example of what patient labour and research can do even under considerable difficulties. The work appears to be intended as a record of the growth of the most active and enterprising body of citizens in Western India, but in an educational point of view it is also very interesting. There is no other book which covers the ground which it occupies, and it will prove, when complete, a perfect mine of details for the use of the future historian. Mr. Ramanjee Byramjee Pateil, the compiler, has collected a wonderful amount of information affecting the social and political status of the Parsis under the Delhi Moguls, the Poona Mahrattas, the Guzerat Rajas, and lastly under the Portuguese and British Governments. The English Preface and the various foot-notes bear testimony to the careful selection of well-attested facts. Sir George Cornewall Lewis distinguishes between the Recorder of observed facts and the *Digester* of those facts, and calls the former the contributor or purveyor to history whose services are invaluable to the latter. Mr. Patell's work is an excellent contribution of the former kind, and considering its perspicuous arrangement, and the neat and elegant manner in which it has been printed, we can recommend it as a suitable addition to all libraries.

ATHLETICISM.

In some form or other at this season of the year, when the university boat race and the athletic sports come under notice, a discussion almost invariably arises with regard to the alleged antagonism between mental and physical work, a considerable number of objectors still asserting that the two are incompatible. It need hardly be pointed out that the objectors are rarely if ever university men, or those engaged in practical tuition at our public schools. They are generally persons who have some very exceptional experience to relate, of some youth, of originally delicate constitution, who broke down under the combined strain of reading for honours and being tried for a seat in his college boat. General experience, however, teaches us that the amount of work engaged in by the majority of men at college is not sufficient to tire men so that reading is interfered with. Indeed Mr. M'Laren in his valuable remarks on Exercise and Training, observes that the amount of muscular work done by each member of a college crew is insufficient for his bodily requirements and for his proper development. In fact, the external mechanical work thus accomplished is less than is effected by a walk of nine miles at the rate of four miles an hour, which the late Professor Parkes held was the standard amount of daily exercise for a healthy adult. The work done by university crews, however, is considerably more than that attempted by college crews; but then the members of these crews are the pick, in physique, of the whole university. Nothing, however, can be clearer in this case than that the extra exertion required for the Putney

race does not interfere with the attainment of high literary honours. The names of Merivale, Selwyn, Balliol, Brett, Abercrombie, Deaman, Garnier, Hornby, and Warre prove the contrary; whilst a reference to the biographical notices published a few years since by Mr. MacMichael shows that university crews have carried off quite their full share of university distinction, and by their success in after-life have proved that their energy has not been impaired by their exertions in youth. Nothing is so fatal to work as fatigue, and nothing induces this so readily as monotony of employment. The reading man who throws down his work at two o'clock in the afternoon, and takes a sharp burst on the river for two hours in the college eight, will feel fitter for work in the evening than the man who has taken the regulation constitutional, and who has failed to leave the thoughts and anxieties of his work behind him, or to rouse his bodily functions to healthy repose. With regard to the pursuit of athletics at our universities we have no hesitation in saying that they are mostly directed for good. We wish we could say the same as regards our public schools. There we look upon the introduction of the spirit of competition into sports and games as altogether harmful in leading to too great a strain on the system whilst development is in its most active phase.—*Lancet.*

EDUCATION AS A SCIENCE.

(*Concluded from page* 117)

We next come to a chapter on "Education Values." Much of this might be called "the importance of the sciences and their influence in other provinces of thought." As it seems to us much that is here stated might be taken for granted. No one doubts the advantages to be derived from studying the sciences; but such study cannot be conducted to much purpose until the student is old enough to be his own master and to choose for himself both subject and teacher. It is one thing to show that it is a great advantage to have learnt a science, and quite another to prove that at the school age or in ordinary circumstances this science may be learnt. This latter inquiry Mr. Bain carries on in a subsequent chapter, and this inquiry is for educational purposes of the greater practical importance.

One of the main problems in teaching children is *when to begin*. Mr. Bain sets himself to determine all he can about it, but his science has to take refuge in a very common-place appeal to experience: "At what age should education commence? . . . . "Nothing but observation of cases will avail us here. We have to "set aside the instances that are extreme either in vigour or in "weakness. We know that many have begun to read at three "years old, and have grown up perfectly healthy and strong. "What we do not so well know is whether, by beginning at four

"or five they would not have been as far advanced at fifteen as they "are in the earlier commencement. [We must parenthetically "protest against this mode of expression.] If, however, any con- "siderable number of children have begun schooling between three "and four without more than an occasional instance of observed "mischief, then a year later ought to be a margin of safety for all "but exceptional cases" (p. 186). In this statement the influence of psychology is not obvious.

In the "Logical Sequence of Subjects" the Professor discusses the question which should come first, the general formula, or the instances which it binds together. Up to the present time all theorists, to the best of our knowledge, have maintained that to give the formula first is an absurdity. Such general statements "are useful to those who have collected a number of ideas, but utterly useless to those who have no collections ready for classification" (Edgeworth's *Practical Education*). But actual teaching is, as we all know, carried on mostly in the teeth of the theorists. Here as elsewhere Mr. Bain, instead of siding with the Reformers, unexpectedly goes over to the enemy. "It may be the shortest way of teaching "in many subjects to give the generality first, and the instances "next; the effect being suspended till both have come together. "If the generality is not cumbrous or prolix; if it does not involve "a long series of abstract phrases, unilluminated by particulars; "then, the best course might be to deposit it (*i.e.*, the words) in the "memory, for a little time, as an unmeaning formula, to be forth- "with irradiated by the examples. In this way the examples them- "selves are not kept waiting; the generality is already there, and "they have to fall in under it" (p. 202). Here is comfort for most of us, for we now have Professor Bain's authority for asserting that our practice is not so absurd as the reformers would make it out to be.

Mr. Bain seems a better authority on Psychology than on "Methods," and perhaps this subject cannot be adequately treated till the completion of Kehr's *Geschichte der Methodik*, and hardly then, as that work treats only of instruction in elementary subjects. In his general notions of method Mr. Bain seems to have some sympathy with Voltaire, who says that "every way is good except *the tiresome*." We often hear it said that children should be made to do things which from their very tiresomeness are impossible in later years, but Mr. Bain sees the absurdity of this. Speaking of Mulhauser's method of learning to write, he says, "Although grown "men, such as recruits in the army, can be kept at work on elemen- "tary movements, children have little heart in them and are slow "in conquering the difficulties they present" (p. 237).

The one great recommendation of Mr. Bain for method is that the teacher should confine himself to one thing in each lesson. "Read- ing," *e.g.*, "is the art of pronouncing words at sight of their visible characters:" this and this only should be thought of in the reading lesson. In France the practice used to be (perhaps still is) to teach

reading from Latin, which, of course, was nothing but words to the children. We do not know whether Mr. Bain would push his recommendation to this extreme, though it seems the best way of following his advice: "the subject-matter should excite as little attention as possible, and the visible words as much as possible" (p. 243).

"Much stress is now laid by teachers on the point of beginning "to pronounce short words at sight without spelling them; and "a strong condemnation is uttered against the old spelling method. "*The difference between the methods is not very apparent to me*" (p. 240). When Mr. Bain tells us he can see no difference between connecting a visible symbol with a sound, say *cow*, and connecting the three sounds *see o, double-you* with that same sound, the only reply we can make is simply this—*see can*.

In the latter part of the book we have a chapter on the "Value of the Classics," but this is a misnomer: it should have been "the Uselessness of the Classics." In this part of his work Mr. Bain's impartiality breaks down; hitherto the most conservative of writers on education, he suddenly announces himself a very Rousseau. But we cannot go into this controversy at the close of a long article. We will therefore end by placing before our readers a few passages which seem to us especially worthy of notice as educational aphorisms:—

Indifference.—"The teacher has to waken the pupil from the state significantly named *indifference*, the state where differing impressions fail to be recognised as distinct." (p. 17.)

Preparation for Science.—"The empirical knowledge of the world that precoded science is still the knowledge that the child passes through in the way to science; and all this may be guided so as to prepare for the future scientific revelations. In other respects the so-called curiosity of children is chiefly valuable as yielding ludicrous situations for our comic literature." (p. 92.)

Curiosity.—"Much of the curiosity of children, and of others besides children, is a spurious article. Frequently it is a mere display of egotism, the delight in giving trouble, in being pandered to and served. Questions are put not from the desire of rational information, but from the love of excitement. Occasionally the inquisitiveness of a child provides an opportunity for imparting a piece of real information; but far oftener not." (p. 90.)

By getting up early you don't hasten the sunrise.—"It often happens that you try a pupil with a peculiar subject at a certain age, and you entirely fail; wait a year or two and you succeed, and that without seemingly having done anything expressly to lead up to the point; although there will inevitably be, in the meantime, some sort of experience that helps to pave the way. In regard to the symbolical and abstract subjects, as Arithmetic, Algebra, Geometry, and Grammar, I think the observation holds. A difference of two or three years will do everything for those subjects." (p. 174, *note*.)

TACT.—"Much of course depends upon *tact*: meaning by that a lively and wakeful sense of everything that is going on. Disorder is the sure sequel of the teacher's failure in sight or in hearing; but even with the senses good there may be absent the watchful employment of them. This is itself a natural incapacity, for the work of teaching; just as an orator is sure to fail if he is slow to discern the signs of the effect that he produces on his audience. A teacher must not merely be sensitive to incipient and marked disorder; he must read the result of his teaching in the pupils' eyes.

"That quietness of manner that comes not of feebleness but of restraint and collectedness, passing easily into energy when required, is a valuable adjunct to discipline. To be fussy and flurried is to infect the class with the same qualities; unfavourable alike to repression and to learning. (p. 110.)

MORALITY OF THE YOUNG.—"By far the most powerful stimulus to acts of goodness towards others, is good conduct on the part of others; whoever can resist this is a fit subject for the government of fear and nothing else. The law says, 'Do unto others as ye *would* that they should do unto you.' The lower ground of practice is, 'Do unto others as they do unto you.' This is as far as the very young can reach in moral virtue." (p. 100.)

FUNCTION OF CRITICS.—"It is a received maxim in the tactics of legislation that no scheme however well matured can pass a popular body without amendment; it is not in collective human nature to accept anything *simpliciter*, without having a finger in the pie." (p. 96, note.)

This last is not perhaps an educational aphorism, but we quote it as Mr. Bain's testimony to the universal tendency to intrude the critical finger. The individual critic is not more likely than collective human nature to receive anything *simpliciter*; but, even in criticising, critics may acknowledge a debt of gratitude to the author for what he has given them. This debt we gladly acknowledge to Professor Bain.—*Educational Times*.

ARITHMETIC, HISTORY, AND GEOGRAPHY.*

ARITHMETIC.

I come now to a study which is pursued in every school in Europe, a study to which much time is given on account of its real or supposed utility, and which should have besides a great educational value, being, as Plato says, one of the studies "in which the eye of the soul is purged" (7th bk. of *Republic*)—I mean Arithmetic.

Notwithstanding the importance usually attached to this subject, the amount of time bestowed upon it, and the early age at which it is begun, the number of failures in it is notoriously large. I have been told by head-masters of public schools that boys come to them

* Lectures delivered at Leeds by the Rev. R. H. Quick, M.A.

at the age of twelve or fourteen having been *all through arithmetic*, but quite unable to answer the simplest questions in it. One master of great experience tells me that he seldom finds a boy who on coming to him in this advanced stage of learning gives a right answer to the question—Which is greater, 1-10th or 1-11th? So much for the secondary schools. Things are probably better in the primary schools, but when I examined some of the best boys in Liverpool for a scholarship, I found that most of the boys had been taught too much in a groove. *E.g.*, they could work sums in "L. C. M." or "G. C. M." but they did not know the meaning of the words *multiple* and *measure*. When I asked them to name a multiple of seven, they looked dumbfoundered. One poor boy vaguely seeking a clue to bring him into the beaten track asked feebly, "Do you mean a common multiple, sir?" These boys were good at the art of arithmetic, but their intelligence had not been trained by investigation into the science.

Let us see what we want. We want our pupils to get (1st) the power of manipulating numerical quantities *correctly* (which is the main thing) and rapidly, *i.e.*, easily, in their heads; (2nd) the power of putting these results neatly and rapidly on paper. When these powers are acquired in Addition, Subtraction, Multiplication, and Division, everything else can soon be added as far as the *art* is concerned. Next, for the science we want all the operations to be performed intelligently.

In considering this subject the same objection meets us on the threshold as in the case of learning by heart. The objector says, You want to cultivate the children's intelligence by getting them to understand figures. This attempt to get them to understand when they begin, is a mere waste of time. They can't understand, but they can work mechanically. Teach them to work by rule and the understanding will come in due course. To this I reply, Children cannot understand everything about figures, but that is a poor reason for not requiring them to understand anything. It may not be possible to make beginners understand Long Division, but this is no reason why they should not understand Addition and Subtraction. The great mischief is in most cases that *children* begin in the wrong way. Before they can conceive of more than a hundred things they are taught notation and made to write down millions. In my belief it is a mistake to let beginners do anything with pen or pencil except writing columns of figures very carefully for neatness. Every process should be done in the head till it is done readily. The plan of putting children down to "do sums" puts them into bad habits at once. When they have to determine what 9 — 4 is they save themselves the trouble of thinking by putting down nine dots, rubbing out four, and then counting the remainder. They should have therefore no written arithmetic till by constant oral practice they can readily add and subtract. In the German schools all the early operations are made clear by means of actual *things*. I have no doubt

this is the best foundation for arithmetical knowledge, but I have not yet determined whether it is indispensable. Certain it is that from the very first one may ask questions about *things*, and these will be much better for the children than abstract questions. *E.g.*, one may ask—"How many chairs are there in the room?" If the answer be 12, the master may say, "If only one person could sit on each chair and there were ten people in the room, all sitting, how many chairs would be empty? Now if five people more came in, how many of them would have to stand?" and so forth. The great beauty of arithmetic for teaching purposes is that the number of questions which readily suggest themselves is infinite.* It is usual to form "trains" from the very first, such as the Multiplication table, and first or last such trains must be formed, for the art of arithmetic depends on these associations being properly established. James Mill takes Addition as his instance of "association" and I will quote his words, as arithmetic gains vastly in interest if we observe the mental operations it involves. He says: "All men whose practice is not great find the addition of a long column of numbers tedious, and the accuracy of the operation by no means certain. Till a man has had considerable practice, there are few acts of the mind more toilsome. The reason is, the names of the numbers which correspond to the different steps do not readily occur; that is, are not strongly associated with the names which precede them. Thus 7 added to 5 makes 12, but the antecedent 7 + 5 is not strongly associated with the consequent 12, in the mind of the calculator, and he has to wait and search till the name occurs to him. * * * If the practice of the performer has been small, the association in each instance is imperfect and the process is irksome and slow. Practice, however, *i.e.*, frequency of repetition, makes the association between each of the antecedents and its proper consequent so perfect that no sooner is the one conceived than the other is conceived likewise."—[James Mill's *Analysis*, edited by J. S. M., p. 90.] Now the art of arithmetic depends mainly on having these associations firmly established in the mind. Most teachers perceive this about Multiplication and are not satisfied till "9 eights" at once suggests 72, but they are more careless about the short trains or associations which enable us to do Addition, Subtraction, and Division.

Another thing has tended to spoil our young arithmeticians. Mental arithmetic is conceived of as something quite different from written arithmetic. Advanced pupils are sometimes introduced to this difficult art and made to bewilder strangers by telling the price of any number of dozens of articles at any rate you like. Mental arithmetic in this sense would be most useful in any community where writing materials were rarities, but this is by no means the case with us; and feats of this kind are like one-handed pianos-

* The kind of question suitable for children may be seen in Horace Grant's *Arithmetic for Children*. (Bell & Sons.)

playing. I have heard some very extraordinary playing with one hand, but I could not help wishing that the performer would take two hands and play still better. This conception of mental arithmetic is indeed a very absurd one. The truth is that a great part of the process in all arithmetic, except arithmetic with the fingers or by making and rubbing out dots, should come under the head of *mental* arithmetic, and as the necessary associations can be firmly established only through an immense deal of practice, it is far better that they should be made strong by *viva voce* practice preceding written arithmetic. De Morgan recommended the formation of long trains such as counting upwards and then downwards by a constant difference, first 1, then 2, then 3, etc., taking different starting points, *e. g.*, in going up by threes the pupils say first "3, 6, 9, etc.," then "1, 4, 7, etc.," then "2, 5, 8, etc." Very good class practice may thus be got if each boy gives a number smartly.

As I attach great importance to constant *viva voce* practice as a preparation for written arithmetic and as an exercise to be continued after written arithmetic has been begun, indeed to the end of the course, I will mention the way in which a class may be kept alive. We will suppose the learners to have passed through the stage when it is necessary to speak of things, not abstract numbers. This stage is indeed not recognized in this country, but it is made much of by the Germans who are better authorities on such matters than we are. But I will suppose now that we can use abstract numbers. The master faces his class which is arranged for place taking. In his hand is a good long pointer. He may first make the boys count upwards or downwards by a constant difference in the manner I have mentioned. He lets his pointer travel on as the boys give the numbers, and if a pause occurs the pointer goes on till the right number is given. If a wrong number is given he takes no notice but goes on till a correction comes from some boy below. After a few rounds of this he changes the exercise. He now may fix a number, say 17, and then give numbers to add or subtract. He says "Plus 5" and *after* speaking he directs his pointer to the boy he selects for the answerer. If the 22 is not instantly given the pointer travels on. He goes on briskly with such questions as "+ 7," "+ 4," "— 3," "— 8," etc., etc. Another practice is to add each number named by the master to the sum of the numbers previously given. When the pupils get accurate and sharp in adding the digits a good exercise for the eye may be obtained as follows:—Dictate a block of figures which the pupils must take down very neatly on paper. Let the rows of figures going from top to bottom of the paper be marked A, B, C, D, etc., and the rows going from side to side of the paper marked i., ii., iii., etc., in Roman numbers. The master has a similar paper, and he will do well to mark the sums of the several columns on his own paper, though of course there must be nothing of the kind marked on those of the boys. The master then asks for the sum of the figures in D, or in iv. or v., or in C + B, in

no case naming the answerer till he thinks the boys have had time to add up the column. I said the master should have his paper ruled. Later on he should use a book like Henry Hopkins' *Teacher's Manual* (Simpkin and Marshall), giving a great number of questions with the answers. Masters who are ready reckoners themselves may scorn such helps, but I think most will find them almost necessary, and that for two reasons—first, in case the master himself makes a mistake a very awkward altercation may ensue, or the sharper boys will feel that a place has been lost and won unfairly; secondly, the master ought to be able to concentrate all his thoughts on the boys, and not to be obliged to keep any figures in his head.

But I can fancy an experienced teacher raising two objections to these exercises. He will say, "If you get your boys to attempt all the questions this will be very hard work for them, and they will soon be exhausted; and besides, I doubt if you *will* get any but the best boys to attempt to answer. The boys who find they are not in time with their answers will soon give up trying and will merely sit idle."

That the work is hard work I must admit, and it should therefore not be continued for more than a quarter of an hour or twenty minutes at a time; but after a great deal of experience I can testify that it is work which most boys take to very kindly. As to the other objection, I do find occasionally a boy or possibly two or three boys who are so much behind the rest that they cease to attend. If the master suspects this he asks a very easy question indeed and then names the boy who is not attending, if the boy fails to answer he raises a laugh against himself.

But the best way of preventing stagnation is the following:—At the end of the first half of the lesson, or at the end of each lesson, if the lessons are short, the marks are taken, and then the order of the boys is completely reversed. The boy at the top goes to the bottom, the boy next below him now becomes the next boy above him, and so on. The marks of the two halves of the lesson, or of the pair of lessons, when added together are the measure of each boy's success. This change of order wakes everybody up. The boys who were lately at the bottom will, on finding themselves at the top, exert themselves to keep there; and I have sometimes known a boy wake up in such a position and parry all the thrusts of the master most successfully. Many have been the exclamations of surprise when I have mentioned this way of marking, and many complaints have I heard of its unfairness, but these complaints have not come from the boys, who find that it is perfectly fair. It is fair I say in this subject, and in any subject where a great number of questions are asked, and where good boys who begin low down are sure of a chance of getting up. The ordinary plan of letting the boys *begin* in order of merit is an extremely bad one, for it gives a great advantage to the boys who least want it, and renders competition with them hopeless. It is an elaborate system of handicapping in which

the worse a horse is the more he has to carry. In such competitions we need not wonder if there are few *bona fide* entries.

By such exercises as I have mentioned I should wish my pupils to learn to add and subtract correctly and rapidly. Exercises in Addition should never be discontinued, but we may soon give part of each lesson to Multiplication and Division. All teachers are as I said agreed about the necessity of knowing the Multiplication table thoroughly, but here as elsewhere many teachers work too much in a groove. The learner should say the two tables briskly upwards and downwards. When he has learnt it in the form $2 \times 1 = 2$, $2 \times 2 = 4$, $2 \times 3 = 6$, he should also learn it in the form $2 \times 2 = 4$, $3 \times 2 = 6$, $4 \times 2 = 8$, etc. He may also learn it as doubles, the double of 1 is 2, etc.; and as halves, the half of 2 is 1, the half of 4 is 2, etc. These different ways give the teacher a great choice of questions even in the two line only. He may give numbers and require their doubles; then he may give numbers and require their halves. Then he may give three numbers, say 6, 2, 5, and require the product of the first two figures with the 5 added to it.

But I am going into unnecessary detail. Any teacher who will think out this matter for himself may find a great variety of such exercises. The only caution I would give is not to make the questions difficult; a great deal of time is spent on a difficult question, and in this time a number of easy questions might have been answered, and the easy questions are the main things for learners.

I cannot pass from Multiplication without pointing out the importance of making the learner from the very first regard each number as a prime number or as a multiple of its factors. He will with a little practice be able to run up the numbers as follows:—"1 prime, 2 prime, 3 prime, $4 = 2^2$, 5 prime, $6 = 2 \times 3$, 7 prime, $8 = 2^3$, $9 = 3^2$, $10 = 2 \times 5$, 11 prime, $12 = 2^2 \times 3$, etc." This table however should be learnt by the intellectual memory not the sensational.

A few minutes in every lesson should be given to questions on the meaning of arithmetical expressions. This is of more consequence than might at first appear. It is of small importance acquiring a technical terminology if we *have* the ideas or if we can *do without* the ideas; but in this case the ideas are necessary, and although pupils often have the words in their heads without the ideas, it is extremely unlikely that they will have the ideas without the words. When the words are properly understood they must be made familiar by constant use in *viva voce* questions. By the plan of constant *viva voce* some insight may be gained into the science of arithmetic, and the understanding of the pupils may be exercised about all the principal conceptions. The great point is not to give conceptions too fast, but to make those given thoroughly familiar by use before advancing to fresh. This is especially the case with fractions. As Mr. Lake has well said, every mind which understands the multiplication of fractions must have passed through certain stages. It is

the teacher's duty to analyse the process, to know precisely what the stages are, to guide the mind of the pupil along them and to make him familiar with each before allowing him to attempt further advance. Now it takes a long time to naturalize the conception of a fraction, and I think the conception should be given long before "fractions," so called, are begun. I pointed out just now that the Multiplication tables may be turned into Division tables by saying it thus: $\frac{1}{3}$ of $3 = 1$, $\frac{1}{3}$ of $6 = 2$, $\frac{1}{3}$ of $9 = 3$, etc. When the pupils understand this thoroughly they may get a notion of the $\frac{1}{2}$ of 1. Lines of equal length may be drawn on the black board and these being the units may be divided in such a way as to show the meaning of a proper fraction. The pupils may then fold sheets of paper for themselves. The notion of a proper fraction having been acquired (or rather extended, for every child will know what a half is and what a quarter is) there will be no difficulty in getting at say the $\frac{1}{2}$ of 28 and then of 29. In this way thirds and fifths, etc., may become as familiar as halves and quarters are now.

In written arithmetic the great thing to be insisted on is clearness and neatness of work. Very often the master merely glances at the answer and does not look to see whether the different steps are clearly indicated. The use of slates and scraps of slate pencil by beginners has a very bad effect on neatness. All the smaller operations are scribbled down in a corner and rubbed out before the work is shown up. Even the number carried is carried on the slate instead of in the head, and in this way continuous attention becomes unnecessary. As I have said, I do not think beginners should have any written sums at all, but should write figures with a view to acquiring neatness. Paper and if possible pen and ink should be used from the first.

When boys after some years of arithmetic ascend to algebra they meet with all sorts of difficulties arrayed in phalanx. They make very little way in consequence, and the most successful school algebra is often nothing but the art of manipulating letters according to seemingly arbitrary rules. But if arithmetic has been taught intelligently the only new notion to acquire on the threshold of algebra will be a new means of generalizing. The pupil will be quite familiar with factors, multiples, powers, indices and even with the nature of a negative quantity and the effect of subtracting it or multiplying by it. He will also have had a good deal of practice in the use of brackets, and letters themselves need not be quite strange to him: x may have long stood for the number he is in quest of and he may have found the advantage of "a's" and "b's" in general statements. The only result of keeping up such a rigid distinction between arithmetic and algebra is that neither of them is properly understood.

I have perhaps now confused you with my details. But I hope you will at least remember, if you do not follow, my advice, which I will put briefly thus:

1. Have a great deal of *viva voce* arithmetic, and with beginners nothing but *viva voce* arithmetic.
2. The subject of the *viva voce* must be the thinking out of principles, the exact meaning of arithmetical words, and lastly and chiefly an endless variety of easy practice in the four rules.
3. The practice must be conducted very briskly and if possible with place-taking such as I have described.
4. The necessary "trains" should be formed by learning tables not only for multiplication but also for the other three rules, and there should be endless sharp questioning and dodging in these tables to secure perfection in the short "trains."
5. The master must always, except in the case of tables or when teaching the merest beginners, have both the questions and answers in his hand.
6. The boys must be accustomed to factorize numbers and must understand powers and indices.
7. There must be no rigid line drawn between arithmetic and algebra, but great care must be taken not to give new conceptions before the old are thoroughly familiarized by practice.
8. In written arithmetic paper and where possible ink must be used from the first, and great attention must be paid to clearness of statement and to neatness.

MILTON'S TRACTATE ON EDUCATION.*

I NEED make no apology to a society of schoolmasters for having chosen this subject for an evening's consideration. For the last twenty years no book has been more valued by me as a guide and a reference in all subjects connected with teaching. When I first became a schoolmaster, about the time of the appointment of the Public School Commission, it occurred to me that the reprinting of this little tract would be one of the best means of disseminating right views among my colleagues on the subjects which were then occupying our minds. But I soon found that there were very different opinions on the matter. A Latin theme was proposed to the boys by one of the oldest of the masters, the object of which was to prove that Milton, like Burke, went mad in his old age. When I demanded some proof of this extraordinary statement, I was asked, "Did not he write some crack-brained book upon education towards the end of his life?" Discovering the fathomless abyss which separated the views of my friend and myself, I kept the tractate for the purpose of my own improvement, and I venture to-night, with some timidity, to bring it before you as a serious and practical work on the science and art of education.

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* A Lecture delivered before the Birmingham Teachers' Association, by Oscar Browning, M.A.

I had better begin by saying something about its composition and the occasion which brought it forth. It is written in the form of a letter to Mr. Samuel Hartlib, the son of a Polish merchant, who resided mainly in London. He was a friend of every new discovery which seemed likely to advance the happiness of the human race. He took great interest in science, in the union of the Protestant churches, and, above all, in education. It was therefore natural that he should have been especially attracted by the writings of Comenius, the great Moravian teacher, who announced to his age a discovery as important as that of Bacon, heralded with the same confidence and promising as great results. I do not know how far the name of John Amos Comenius is familiar to you, but his views and his work are too important to our understanding of Milton for me to pass them by. He was born on March 28th, 1592, in a small village in the south-east of Moravia. He belonged to the simple, pious Protestant sect of the Bohemian brotherhood, and was in early life ordained a preacher. The desolation of the thirty years' war found him in early manhood, and first robbed him of his property and his home, and at last drove him from his fatherland. He took refuge in Poland, and as he came to the mountain-barrier which forms the limit of Bohemia and Moravia, he fell on his knees and with many tears besought God that He would not permit his work to fail out of those chosen countries, but would still preserve a seed within them. However, this very calamity was the occasion of an extended influence. He was encouraged to bring to birth the ideas of educational reform which had been maturing within him. The sect to which he belonged was conspicuous in its care for education, but the limits of education were narrow. Little was taught but Ciceronian Latinity, and that with great pedantry and loss of time. These defects had not passed without attempts to improve them. Ratke, better known as Ratichius, had preceded Comenius, and stimulated his reforming zeal. Comenius made the improvement of his own community an occasion of giving enlightenment to the world. His first efforts were directed to simplifying the teaching of Latin. In 1631, as rector of the school of Lissa, he produced his "Janua Linguarum Reserata," a book which, in the opinion of Bayle, would have immortalized him had he produced no other. He had sketched out his *Didactica Magna* or *omnes omnia docendi artificium*. Shortly after this he was invited to reform the education of Sweden, and he sent to that country a Latin translation of his book. A slight outline of his system found its way to Mr. Hartlib in London, where it was printed somewhat prematurely as *Pansophiæ Prodromus*, in 1639. The book met with great and unexpected success. In 1641 Comenius was summoned to England at the instigation of Parliament and was offered the Colleges of the Savoy, Winchester, or Chelsea for the inauguration of his plans. But the journey of the King to Scotland and political troubles put an end to the design. He found a rich patron in Ludwig von Geer, of

Norkiping, in Sweden, and was through him introduced to the great Chancellor Oxenstiern who had already taken much interest in the work of Ratichius. Again driven from home by the horrors of war, he found a last resting-place in Amsterdam, where he lived rich and prosperous in the practice of his profession. He is buried in the Walloon Church, and his grave-stone marks him as the famous author of the "Janua Linguarum."

Now, what were the main principles of his teaching? He laid great stress on the training of a healthy body, on exercise, and the ventilation of the school-room. But the point which he most insisted upon was the simultaneous teaching of words and things. Endless time had been spent in the routine of language—why not at least utilize this labour, and while the necessary drudgery of words and sentences is proceeding, take care at least that what is learnt is worth remembering for itself. This is his first great principle. The next are, to proceed from the easy to the hard, and finally to enforce teaching by practical experience. We shall find these same main lines running through the tractate which we are this evening to consider. Milton, therefore, writing to Mr. Hartlib, proceeds to set down "that voluntary Idea which hath long in silence presented itself to me of a better education in extent and comprehension far more large and yet of time far shorter and of attainments far more certain than hath been yet in practice." He asks his friend "to accept these few observations which have flowered off and are as it were the harvestings of many studious and contemplative years altogether spent in the search of civil and religious knowledge, and since it pleased you so well in the relating I here give you them to dispose of."

He begins by the principle that the end of learning is to repair the sins of our first parents by regaining to know God aright, and because God can only be known in His works, we must by the knowledge of sensible things arrive gradually at the comprehension of the insensible and invisible. Now we must begin with language, but language is only the instrument conveying to us things useful to be known. No man can be called learned who does not know the solid things in languages as well as the languages themselves. Here we see the first great principle asserted that words and things must go together, and that things are more important than words. The next principle is that we must proceed from the easier to the more difficult. We are warned against a preposterous exaction —forcing the empty wits of children to compose themes, verses, and orations which are the acts of the ripest judgment. Matters were indeed far worse in Milton's time than they are now. We are not now under the dominion of the schoolmen, and we do not begin education by the most intellectual abstractions of logic and metaphysics. But we are still guilty of the "error of mis-spending our prime youth at the schools and universities either in learning mere words or such things chiefly as were better unlearnt." We have still

as much need as ever that some one should "point us out the right path of a virtuous and noble education, laborious indeed at first ascent, but else so smooth, so green and so full of goodly prospects and melodious sounds on every side, that the harp of Orpheus was not more charming." Milton defends what he means by education in the following words:—"I call a complete and generous education that which fits a man to perform justly, skilfully, and magnanimously all the offices both public and private of peace and war." To attain this object first a spacious house and ground about it is to be found fit for an academy to lodge about 130 students under the government of one head. This is to be both school and university, to give a complete education from twelve to twenty-one, not needing a removal to any other place of learning. Such schools are to be established in every city from one end of the country to the other. I doubt whether many of us would agree with the suggestion of welding together the university and the school. In Milton's time the idea was far less extravagant. Milton himself spent at the university the years between fourteen and twenty-one. The ordinary length of the course was seven years from entrance to the degree of M.A. So that his proposal is not so much to suppress the university as the school. Again, he probably saw little hope of reforming a large body like the university or weaning it from the useless babblements of the Aristotelian philosophy, whereas by such a private establishment as he describes reform might be begun at once. Still, we must remember that many of our public schoolboys do not go to the university at all, that Milton's plan is exactly carried out in France, and that a graduate of a lycée receives no further education except in a special school of law or physic. If such institutions as Owen's College become common they will be doing very much the same work as Milton recommends.

Milton divides his scheme of education into three parts. (1) Studies; (2) Exercise; (3) Diet. One reason why this tractate of Milton has been so unduly depreciated is that it does not conceive of any education possible except through the Latin tongue. If we wish to make his precepts useful to us we must tear aside this veil and go as deeply as we can into the principles which underlie his teaching, and infer what he would have recommended to us in a different state of things. Then Latin was the language of the whole learned world. A man ignorant of Latin would have no access to the best books of the age, and no opportunity of communicating his thoughts to the world at large. Latin grammar is therefore to be taught first, but with the Italian pronunciation of the vowels, such as is rapidly making its way amongst us at the present day. But here the means is to be subordinate to the end. Language is to be the vehicle of moral teaching in the formation of a lofty character. The Pinax of Cebes, a simple advocacy of moral principles, Plutarch, one of the purest and most high-minded of the ancients, the best dialogues of Plato, are to be read to the youthful scholars. For here, as Milton says, "the main rule and ground-work will be to temper them with

such lectures and explanations upon every opportunity as may lead and draw them in willing obedience, enflamed with the study of learning and the admiration of virtue, stirred up with high hopes of living to be brave men and worthy patriots, dear to God and famous to all ages." Milton emphasises the cardinal truth of education, that it resides not in the mechanical perfection of study and method, but in the spirit of the teacher working in the heart of the pupil. The first step in an education is to make the pupils despise and scorn all their childish and ill-taught qualities, to delight in manly and liberal exercises, to infuse into their young hearts such an ingenuous and noble ardour as would not fail to make many of them renowned and matchless men. Together with their Latin exercises, arithmetic and geometry are to be taught, playing and religion is to occupy them before they go to bed. Thus ends the first stage of their education. As soon as they are masters of Latin grammar they are to read those treatises which are concerned with agriculture, but the object of this is, not to teach them Latin but to incite and enable them to improve the tillage of their country, to remove the bad soil, and to remedy the waste that is made of good. Then, after learning the use of the globes and the elements of natural philosophy, they are to begin Greek, but the authors read again have reference to natural science. Trigonometry is to introduce them to fortification, architecture, or navigation. They are to acquire the principles of medicine that they may know the tempers, the humours, the seasons, and how to manage a cruelty. No advocate of scientific education, not even Mr. Herbert Spencer himself, could have sketched a more comprehensive plan of study in these departments. Then follows a suggestion, which has often been made by educational theorists but seldom tried. There are many boys who are inaccessible to purely abstract knowledge; learning takes no hold upon them unless it is connected with doing; and it has often occurred to me that if to the whole curriculum of science there could be added a curriculum of practice, scarcely any boy would be found incapable of securing intellectual education. Goethe has recommended this in "Wilhelm Meister," and it has been put to test in some few instances. Milton accepts it without reserve. "To set forward all these proceedings in nature and mathematics, what hinders but they may procure, as oft as shall be needful, the helpful experience of hunters, fowlers, fishermen, shepherds, gardeners, apothecaries, and in the other sciences—architects, engineers, anatomists; who doubtless would be ready, some for reward and some to favour such a hopeful seminary. And this will give them such a real tincture of natural knowledge as they will never forget but daily augment with delight."

These practical studies may be supposed to have occupied them to the age of sixteen, when they are for the first time to be introduced to grave and harder topics. As they begin to reason on the difference between good and evil there will be required a constant and sound endoctrinating to set them right and firm, instructing them

more amply in the knowledge of virtue and the hatred of vice. For this purpose they are to make themselves well acquainted with Plato, Xenophon, Cicero, and Plutarch, but in their nightward studies they are to submit to the more determinate sentence of holy writ. Thus they will have traversed the circle of ethical teaching. During this and the previous stage poetry is to be read as an amusement, and as a golden fringe to the practice of serious labour. "And either now," as Milton remarks "or before this they may have easily learnt at any odd hour the Italian tongue." This sentence has often been quoted to Milton's discredit to show how visionary and baseless his idea of education was. But experience is again in his favour, and those who have tried the experiment well know that Italian may easily be learnt by intelligent and studious boys with very little expenditure of time or interruption of other studies. After the foundation of their character and principles there is to follow their education as citizens. They are to know "the beginning, end, and reasons of political societies, that they may not in a dangerous fit of the commonwealth be such poor shaken uncertain reeds of such a tottering conscience as many of our grave counsellors have lately shown themselves, but steadfast pillars of the State." The study of law is to succeed, and then about the age of eighteen the study of theology with Hebrew and Chaldaic. Tragedy is regarded as closely connected with political oratory. When the minds are truly stored with this wealth of learning they are at length to acquire the art of expression both in writing and in speech. "From henceforth, and not till now, will be the right season of forming them to be able writers and composers in every matter when they shall be thus fraught with an universal insight into things." Thus ends this very comprehensive scheme. "These are the studies whence our noble and our gentle youth" (observe that Milton is thinking of the education of a gentleman) "ought to bestow their time in a disciplinary way from twelve to one-and-twenty, unless they rely more upon their ancestors dead than upon themselves living. In which methodised course it is so supposed they must proceed by the steady pace of learning onward, as on convenient times to retire back into the middle ward, and sometimes into the rear of which they have been taught until they have confirmed and solidly united the whole body of their perfected knowledge like the last embattelling of a Roman legion."

One of the main hopes of the improvement of education lies in adopting the truth that manly and serious studies are quite capable of being handled and mastered by intelligent boys. Many of us who hold this principle may have hoped that the publication of Mill's Autobiography would have led to the imitation of the methods by which he gained a start of twenty years in the race of life. It seems to have produced the contrary effect. But no one can read his famous letter to Sir S. Bentham, written at the age of thirteen and three months, without acknowledging that young

Mill had done at that age nearly as much as Milton expected from his untaxed students. Mill was reading Thucydides, Euclid and algebra at eight; Pindar and conic sections at nine; trigonometry at ten; Aristotle at eleven; optics and fluxions at twelve; logic and political economy at thirteen. He had also written two histories and a tragedy. There is no reason to suppose that these studies did not form an integral part of his mind, or that when writing his books on logic or political economy, or sketching a perfect system of education at St. Andrew's he was not using the knowledge which he had first acquired in those very tender years.

The physical exercise proposed for Milton's students is of an equally practical character, and differs very widely from the laborious toiling at unprofitable games which is the practice of our present days. Desire of movement, emulation, bodily skill, the cheerfulness of bright companionship, the exertion engendered by common action and co-operation, are all pressed into the service of practical life. Dinner is to be at noon, and about an hour or an hour-and-a-half before this meal is to be allowed them for exercise and rest afterwards. The first exercise recommended is the use of the sword to guard and to strike safely with edge or point. This will keep them healthy, nimble, strong, and well in breath, is also the likeliest means to make them grow large and tall and to inspire them with a gallant and fearless courage. They are also to be practised in all the locks and gripes of wrestling. After about an hour of such exercise, during the needful repose which precedes their mid-day meal, they may "with profit and delight be taken up in reciting and composing their travailed spirits with the solemn and divine harmonies of music heard or learnt, either while the skilful organist plies his grave and fancied descent in lofty figures, or the whole symphony with artful and unimaginable touches adorn and grace the well-studied chords of some choice composer. Sometimes the lute or soft organ-stop waiting on elegant voices either religious, martial, or civil ditties, which, if wise men and prophets be not extremely out, have a great power over disposition and manners to smooth and make them gentle from rustic harshness and distempered passions." That same rest with the same accompanying refreshments is to follow after food. About two hours before supper, which I suppose would be about seven or eight o'clock, "they are by a sudden alarum or watchword to be called out to their military motions under sky or covert, according to the season, as was the Roman wont, first on foot, then as their age permits on horseback to all the acts of cavalry, that having in sport learnt with much exertion and daily master served out the rudiments of their soldiership in all the skill of encamping, marching, embattling, fortifying, besieging and battering, with all the help of ancient and modern stratagems, tactics, and warlike maxims, they may as it were out of a long war come forth renowned and perfect commanders in the service of their country." Milton had good reason for hoping that if this were done there would be

found at least the nucleus of a national army capable of protecting the country against invasion from without or despotism from within. This part of Milton's scheme has been curiously enough carried out in our school volunteer corps, an institution which has long existed in Switzerland. They may be of the greatest service in places where the games are not already too predominant, and where an institution of this kind will be something more than an additional distraction from necessary work. But even in these cases it would be far better if the corps comprised the whole school, and if their labour were spent in some useful acquirement such as the real attainment of military knowledge, or still better the arts of engineering and fortification. This experiment has I believe been already tried at Clifton College.

(*To be continued.*)

DEPARTMENTAL NOTICE.

Book Sanctioned.

NOTICE.

Wells' Anglo-Gujarati Translation Series, Part V.,* is sanctioned for use under the Higher standards for High Schools.

By order of the Director of Public Instruction.

JNO. BOCARRO,
Head Assistant.

Poona, Office of the Director of Public Instruction,
28th May 1879.

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT FROM THE 16TH OF APRIL TO THE 15TH OF MAY 1879.

18*th April* 1879.—Mr. Manghumal Maghraj, Second Assistant Master, Anglo-Vernacular School, Sukkur, is appointed substantive *pro tem.* Sixth Assistant Master, High School, Shikarpur.

18*th April* 1879.—Mr. Narayen Venkatesh Koppar is appointed Acting Mathematical Teacher in the Dharwar Training College.

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* Price 12 annas.

18th *April* 1879.—Mr. R. V. Subnis, B.A., is appointed First Assistant Master, Dhulia High School, as a temporary measure.

19th *April* 1879.—One year's leave, without pay, is granted to Mr. Bogalkote, Sixth Assistant Master, Dharwar High School.

21st *April* 1879.—Mr. C. W Dudley, Teacher of the Apprentice Class, is appointed Acting Assistant Professor of Mathematics, *vice* Mr. Lane.

1st *April* 1879.—Mr. Jamsetjee T. Dalal, L. C. E., is appointed Acting Teacher of the Apprentice Class, *vice* Mr. Dudley.

21st *April* 1879.—Mr. Atmaram Ganesh Patwardhan, Sixteenth Assistant, Poona High School, is appointed Head Master of the Dhulia No. I. Vernacular School.

23rd *April* 1879.—Twenty-five days' privilege leave is granted to Mr. Kashinath Govind Karmarkar, First Assistant Master, Barsi First Grade Anglo-Vernacular School.

23rd *April* 1879.—Two months' leave, without pay, is granted to Mr. M. V. Patel, Anglo-Hindustani Teacher, Poona Camp First Grade Anglo-Vernacular School.

23rd *April* 1879.—Mr. Rajana P. Bhandari is appointed Acting Anglo-Hindustani Teacher, Poona Camp First Grade Anglo-Vernacular School.

23rd *April* 1879.—Two months' sick leave is granted to Mr. Hari Mahadeo Velankar, Third Assistant Master, Jagonath Shankarshet First Grade Anglo-Vernacular School, Bombay.

23rd *April* 1879.—Mr. Narayen Appaji Dixit is appointed Acting Third Assistant Master, Jagonath Shankarshet First Grade Anglo-Vernacular School, Bombay.

26th *April* 1879.—The unexpired portion (10 days) of the 45 days' leave, without pay, granted to Mr S. S. Mallar, First Assistant Master, First Grade Anglo-Vernacular School, Belgaum, is cancelled.

28th *April* 1879.—Seven months' leave, without pay, is granted to Mr. V. B. Bhandivad, First Assistant Master (Canarese side), Belgaum High School.

28th *April* 1879.—Mr. R. P. Bengere, B.A., is appointed substantive *pro tem.* First Assistant Master (Canarese side), Belgaum High School, during the absence of Mr. Bhandivad.

30th *April* 1879.—One year's leave, without pay, is granted to Mr. V. V. Karandikar, Fifth Assistant Master, Ahmednagar High School.

12th *May* 1879.—Mr. Manghumal Maghraj, substantive *pro tem.* Sixth Assistant Master, Shikarpur High School, is appointed

substantive *pro tem.* Head Master Anglo-Vernacular School, Tharushah.

12*th May* 1879.—Mr. Jhamrai Manghumal, Acting Eighth Assistant Master, Narayen Jagunath High School, Karachi, is appointed substantive *pro tem.* Sixth Assistant Master, High School, Shikarpur.

12*th May* 1879.—Mr. Khushiram Khotanmal, Acting First Assistant Master, Anglo-Vernacular School, Tatta, is appointed Acting Eighth Assistant Master, Narayen Jagunath High School, Karachi.

12*th May* 1879.—Mr. Kukumatrai Lakhasing, Third Assistant Master, Anglo-Vernacular School, Sukkur, is appointed Second Assistant Master in the same School.

12*th May* 1879.—Mr. Jhamandas Udhandas, an Assistant in the Anglo-Vernacular School, Shewan, is appointed Acting Eighth Assistant Master, Anglo-Vernacular School, Tatta.

12*th May* 1879.—Mr. M. H. Desai, B.A., is appointed Assistant Deputy Educational Inspector, Rewa Kantha and Panch Mahals.

12*th May* 1879.—Mr. R. M. Gogari is appointed as a temporary measure Assistant Deputy Educational Inspector, Ahmedabad and Kaira.

12*th May* 1879.—Mr. Gopalji G. Desai is appointed Head Clerk in the office of the Educational Inspector, Northern Division.

15*th May* 1879.—Mr. Tarachand Shankiram, Acting Persian Teacher is appointed Acting Second Assistant Master in the Karachi High School, *vice* Mr. Tekchand.

15*th May* 1879.—Mr. Manajmal Valeram, Fourth Assistant Master, is appointed Acting Persian Teacher in the Karachi High School, *vice* Mr. Tarachand.

15*th May* 1879.—Eighteen months' leave, without pay, is granted to Mr. Hari Narayen Kirpikar, Fifth Assistant Master, Dhulia High School.

15*th May* 1879.—Mr. R. V. Subnis is appointed substantive *pro tem.* Fifth Assistant Master in the Dhulia High School, *vice* Mr. Kirpikar.

By order of the Director of Public Instruction.

JNO. BOCARRO,
Head Assistant.

Poona, Office of the Director of Public Instruction,
16*th May* 1879.

THE

Bombay Educational Record.

No. 7.] JULY 1, 1879. [Vol. XV.

THE MONTH.

Our readers will observe from the Departmental Notices the valuable concession which Mr. Chatfield has obtained from Government in favour of Assistant Masters and others who desire to present themselves for University Examinations. Henceforth "Examination leave," on full pay, will be available for that purpose. It may be well, however, for those who contemplate making use of this fresh concession to remember that according to Section 15 of Supplement F, Examination leave "should not be allowed more than twice for each standard of examination." To allow a candidate leave to be plucked only twice will appear a sad curtailment of privilege to many.

The Senate of the University has recognized the new Provincial Arts College at Ahmedabad provisionally for five years, by which time it is hoped that funds will be forthcoming to enable it to be put on an equal footing with the other Arts Colleges of the Presidency. We learn that three scholarships have been endowed by private subscription tenable for one year, and that Messrs. M. N. Ocharam and K. Ranchoji, late of Elphinstone College, and H. P. Pandia, late of the Free General Assembly's Institution, Bombay, have been elected to them.

The silver medal offered by the Cobden Club for proficiency in political economy in the University of Calcutta has been won by Kali Sankar Sukul.

The *Academy* bears that the first instalment of Prof. Max Müller's "Sacred Books of the East" will shortly appear. The first volume contains a translation of the Upanishads, by the editor; the second, the Shû King, Shih King, and Hsiao Kîng, translated by Prof. Legge; the third, the Sacred Laws of the Aryas, translate by Dr. Georg Bühler, of Bombay.

THE Bishop of Manchester at the opening of a new public elementary school in England lately made the interesting statement that in eight years the average attendance of children at elementary schools in the United Kingdom had more than doubled, and said that it was obvious that the increase was out of proportion to any imaginable increase in the population. The figures showed that a great and vigorous and sensible effort had been made to retrieve the failures of the past in regard to education. The bishop also made some comments on a recent resolution of the Birmingham School Board as to "moral teaching" in the Board schools of that town, of which we hope to give a fuller account in our next number.

Nature gives some particulars with reference to the progress of education in Japan. It appears that in the city of Kioto there are to be seen many semi-foreign buildings which are the Shogakko, or elementary schools. Of these there are 64 in the city, and 645 in the whole *fu*. Kioto is divided into two large districts, called Kami and Shimo Kiyo, which are subdivided respectively into 33 and 32 *ku*. Each *ku* is obliged to establish and maintain one of these schools; except in the case of four *ku*, when two are allowed to unite and form one school district. Besides the usual Japanese course of studies, the pupils are taught elements of foreign mathematics, history, geography, and philosophy, and they are also trained in gymnastic exercises. Education is compulsory, only those (who are of age) being exempted who are necessary to the support of their parents.

VERBS OF INCOMPLETE PREDICATION.

I HAVE been surprised to find that there are some who feel a difficulty with regard to what I have termed respectively the Subjective Complement and the Objective Complement of a verb of incomplete predication, especially in the case of the latter. I have said that "In 'He made a mistake,' *made* is a verb of complete predication; in 'He made his father angry,' *made* is a verb of incomplete predication, and requires the (objective) complement *angry* to make the sense complete." Dr. Abbott (*How to Parse*, §§ 147–150) gives precisely the same account of the construction that I do, only he calls the verbs "verbs of identity," and uses the term "supplement" instead of "complement," which seems to me a very needless iteration. He sums up his discussion of these verbs by saying that "Verbs of identity, when intransitive and passive, take a subjective supplement; when transitive, take an objective supplement."

It has been urged that, in the sentences quoted above, *make* has exactly the same sense in each case, and that the difference lies in the object, which in the first is the noun "mistake," but in the second is the clause "his father (to be) angry," or "that his father was angry."

There is a good deal that is specious about this explanation, and with such a verb as "make" it gives a fair account of the sense of the expression; but I think I can show that, even with regard to such a verb as *make*, it is both far-fetched and historically inaccurate, and that there are cases in which it would not be applicable at all. Try it, for example, on such a sentence as "He struck the man dead," or "He set the ball rolling," and contrast the latter with such a sentence as "He caught the ball falling." There is nothing at all strange in the fact that the same verb should both make and not make complete sense, according to the words by which it is accompanied. The question is, "What do we wish to predicate of the subject, and does the verb by itself do what we want?" In "He struck the man," and "He struck the man dead," it is of course true that so far as "struck" denotes "the delivery of a blow," it has the same force in each sentence; but then the point is, that this is not all that we want to predicate in the latter case; and accordingly the verb is a verb of incomplete predication, because, taken by itself, it does not say all that we mean. The action which we want to describe is "to kill by striking," and this complex notion is expressed by using the adjective *dead* in close connection with the verb. As Dr. Abbott says, "To *make king* and to *make beautiful* are, each, just as much one verb as 'to *be-king*' and 'to *beautify*.'" So thoroughly is this the case, that synthetic languages show a constant tendency to combine the adjective and the noun into one compound verb. Thus, in Latin, *mollificare* = *mollem(e) facere*, and in German we constantly find compounds like *vollbringen* or *gutmachen*, the adjective part of which is so bound up with the verb that it is not inflected. Besides, as we make no difficulty about the combination in the passive construction ("He was made angry," "He was struck dead"), why should it perplex us in the active? If a simple substantive (not a clause) can be the *subject* of the complex passive phrase, why may not a simple substantive be the *object* of the complex active phrase? The two go *pari passu*. That this is the right mode of dealing with the construction, appears from its history. It can be traced distinctly to the *analytical* tendencies of our language. "To make black" is only an analytical expansion of "to blacken," and so forth. When English was still in the synthetic stage (in Anglo-Saxon), we rarely find these analytical expressions. We get an instructive insight into the whole matter if we compare the successive expressions in *Luke* xi. 39,—"Ge geclaensiath" (*A. S.*) = "Ye cleanse" (*Wycliffe*) = "Ye *make clene* the outside," &c. (*Tyndale*) = "Ye make the outside clean" (*Modern form*);—or those in *Matt.* xxiii. 5,

"Hig tobræedath hyra healsbec" (*A. S.*) = "They enlarge their phylacteries" (*Wycliffe*) = "They make broad their phylacteries" (*Auth. V.*) = "They make their phylacteries broad" (*Modern form*). The arrangement of the words shows that the *object* of the verb *make* is not a clause, but the *noun* that follows the verb. In Anglo-Saxon it is not uncommon to find the preposition *to* with a dative noun instead of a complement, as thû wyrest thê tó Gode = "thou makest thyself God" (*John* x. 33), so as to bring the object of the verb more distinctly before us. To effect the same object the complement is sometimes put *before* the verb, and the direct object *after* it, as "He his englas deth aethele gástas" = He makes noble souls his angels.

It has always seemed to me a great pity that grammarians have so often called the *object* the *completion* of the predicate. The practice quite obscures the important difference between *completing the construction of a sentence*, and *completing the signification* (or predicative force) *of a verb*. The *object* does the former, but it does not do the latter, and yet it is constantly spoken of as if it did. Nothing whatever is added to the *meaning* of a transitive verb by putting an object after it. The verb can never do more than describe *the action in itself*, and this it always does whether accompanied by other words or not. "Thou shalt not steal" expresses the *action in itself* quite perfectly, because it is an essential part of the signification of a transitive verb that it denotes an action which is done to something or other. Thus, *e.g.*, "he struck" does not denote simply that he moved his arm in a certain way, but that he moved it so as to come in contact with something. If we name that "something," we certainly get a fuller *sentence*, but not one particle is added to the signification of the verb. And why should the *object* be called the completion of the verb any more than the subject? Is it not just as essential to know whence the action proceeds, as to know to what quarter it is directed?

C. P. Mason.

ARITHMETIC, HISTORY, AND GEOGRAPHY.

History.

I turn from arithmetic to another subject of a very different character—History. Arithmetic should be used as a means of cultivating clearness and accuracy of abstract thought. History should exercise the imagination, and through the imagination should act on the whole character by fostering the love of all that is good and great.

But to prevent mistakes let us briefly examine the meaning or meanings of this familiar word.

When the parent asks the schoolmaster, "Do you teach history?" the answer is always the same as to the question, "Do you give the boys plenty to eat?" The schoolmaster replies quite conscientiously in both cases, but he prefers not going into details. "History" and

"plenty" may have various meanings, and perhaps the "history" may be all contained in a little book of which the boys "say" two pages twice a week. I wish my Lords of the Education Department would tell us what they mean by "history," for they require the younger children in our elementary schools to pass an examination in the History of England as far as the reign of Henry VII. From this we must infer that in their use of the word "history" they differ from many other respectable authorities.

There was a time when "chronology" and "the use of the globes" always formed part of a liberal education. These subjects seem to have dropped out from the modern curriculum, at least in name, but much which would have gone by the humbler name of chronology, now in the school-room arrogates to itself the dignity of "history." I doubt if we have gained by the change of name, though the chronological tables have been padded with a few particulars. The notion of "chronology" was clear enough. Chronology and the epitomes which have succeeded it are no more history than the multiplication table is arithmetic, nor are they so essential to history as the multiplication table is to arithmetic; but well-constructed chronological tables are by no means useless. The old plan was to learn up these tables by the sensational memory, and it was supposed they would form a sort of framework in the mind, into which historical knowledge afterwards acquired might be fitted. The frame was allowed to be worthless in itself, and if no knowledge was fitted in, the frame was allowed to go to pieces.

But this is not the notion with which our epitomes are now studied. Just as in genteel circles people do not dread poverty so much as the appearance of poverty, so in genteelly-educated circles the parents and the masters do not so much fear youngsters *being* ignorant as *seeming* ignorant. Now there are some things which all grown people of common intellectual capacity and literary habits know as a matter of course. They have to be sure, long ago forgotten all the history and geography they learnt at school, but they have by degrees got some interest in the chief characters of history and in the chief countries and towns in the world. The interest aroused and fostered in a thousand different ways has ended in the acquirement of some definite notions, more or less exact, about everything to which it extends. The tangible examinable knowledge is after all not very great, and I have no doubt we should, some of us, be plucked if we went in for a pupil teacher's examination in English history (I certainly should), and an average Member of Parliament would prefer not to answer questions about the provisions of the Great Charter or of the Bill of Rights. But if I proved to be of opinion that Shakespeare lived in the reign of Queen Anne, or if a Member of Parliament had never heard of Magna Charta, we should be held very reasonably to have disgraced ourselves. Such ignorance would be conclusive evidence of our being without ordinary intellectual activity and interest, or our having lived all our manhood in an un-

intellectual atmosphere. As such knowledge is found as a matter of course with the average gentleman, the schoolmaster is required to protect his pupils from the disgrace of seeming to be without it. But it is quite impossible to give the schoolboy the knowledge in the way we have acquired it. Our knowledge, such as it is, is the residuum of a vast amount of impressions received in long intercourse with the world and study, desultory for the most part, of celebrated books. The amount of knowledge we could produce to satisfy an examiner might as I said be very small, just as the quantity of water is small which we find in a rain-gauge; but though small in itself it is a sign of an immense deal more which having sunk in is now out of sight. Now the schoolmaster cannot give children the same kind of knowledge which we have; but for all who will accept the testimony of the rain-gauge he can give a great deal more knowledge. He "prepares pupils for examination," *i.e.*, he comes with his watering-pot of historical facts and dates, and the examiner finds the rain-gauge nearly full. He accordingly pronounces the result of the examination quite satisfactory, although beyond the gauge the earth is parched up and not a living thing can be found growing in it.

If then we use the epitome plan let us call things by their right names. As I have said a frame constructed to serve as a frame only has an intelligible use. I myself do not much care about getting a picture frame before I have a picture, but I will keep on the best of terms with those who think first of the frame, provided only that they do not insist on calling it the picture.

Whatever history is then, we may say pretty positively what it is not. It is not chronology or anything at all of the *Mangnall's Questions* type, or of the *Pinnock* type, or of the *Smith's Smaller Histories* or *Student's Home* type. The phrase "teaching history" is altogether misleading. As I take it, the chief function of the schoolmaster in this matter should be to give his pupils some notion of the nature of the vast realm called "history," and also a strong desire to make such excursions into it as time and circumstances will permit. What the schoolmaster now too often does is to give his pupils an entirely false notion of history, and make them think of it as a part of the "grind" which for some inscrutable reason must be endured in one's school days, though happily the rest of life is entirely free from it.

If the parent I have spoken of asks the schoolmaster, "Do you teach history?" the schoolmaster might reply "No; neither I nor anyone can teach all that is known about our predecessors in this little England only, let alone the rest of the world." "Of course not," replies the parent. "But do you teach nothing about them?" "Yes," says the schoolmaster, "almost every lesson brings with it some knowledge of the thoughts and doings of men who have lived before us." "But that is not what I mean by history," rejoins the parent; "I mean the order of the kings and queens and the chief

"I know perfectly well," says the schoolmaster, wrests, *you know*, whose we will suppose to be more truthful than obsequious. "You do not mean history at all. It is *chronology* you are talking about, or, if you prefer it, *Examiner's* history. Pray what examination is your son going in for? Give me notice six months beforehand and he shall be prepared in 'history.' I can't prepare him till I know the period set. Besides it would be inhuman to require young people to carry such knowledge longer than is absolutely necessary."

To-night, however much we may be in bondage to the examiner, we will dream that we are free. Let us then think of history as of all that may be known about those who have gone before us. After all it is not much that we can know. We talk of geography and geology and the Germans talk of earth knowledge, as if we could know all about this "dark terrestrial ball" to a tiny portion of whose surface we adhere for a few of its journeys round the sun; but in truth if you had asked a Lyell or a Murchison about it you would have found that for every mile of its diameter of which he knew something there were more than 800 miles of which he knew no more than a plough-boy. And it is the same with history; nay, it is even worse, for the knowledge we have of a small portion of the past is not so much knowledge as more or less plausible conjecture. The very men who make history and who see behind the scenes as no historian in after ages can, are themselves powerless to get at the truth. The present Lord Hammond, who was at the head of our Foreign Office and was the best informed man in this country, told a new Minister for Foreign Affairs, within a week of the war between France and Germany, that he had never before known things looking so peaceable. Lord Derby knows more about the forces which have produced the frightful war now raging in the East than any historian is ever likely to know; and yet by his own admission he has made great mistakes about these forces. We may trust his words, for unlike some other statesmen, he always makes speech the expression of his thought, and a year ago he tried to convince us that Russia could not possibly go to war. Now he tells us that in looking back he sees war was from the first inevitable. Now if those who know most make all kinds of mistakes, how can the unfortunate journalists give us the truth? How can the historian, who for the most part gives us a sublimate of the journals?

You will hardly see the drift of all this or its bearing on education. I had better explain myself. "*Die Thatsache an sich ist Nichts*: those subjects where the fact can at least be known, more clearly is it true of history where the fact cannot be known. History for the young should be then not a heap of facts, but a series of pictures which may live in the imagination. Accuracy of detail is a very small matter. All that is necessary is that the artist should have clearly grasped the spirit of the action and should make the beholder grasp it too. In the last exhibition of the Royal Academy there

were several pictures which I thought would have taught boys more history than all the *Student's Hume* they were ever plagued with. One was Sir John Gilbert's picture of Wolsey's reception at Leicester which Shakespear too has made a real event for us. Another was the scene in the House of Commons before the Civil War, when the Speaker was forcibly kept in his chair. Another was the march of Oliver with his Roundheads after the victory at Marston Moor. Looking at these pictures one felt that they put before us the people and the events. So too Quatre Bras lives in our memory when we have seen Miss Thompson's representation of it. I mean not so much that we then learn to remember that there was a battle at Quatre Bras, but that we then understand the various passions at work in that complex unit which seems so simple when we call it "the army," and we see our labourers and serving lads under the discipline and leadership of a great commander become in the hour of trial equal in gallantry and calm endurance to heroes of great renown.

John Henry Newman somewhere maintains with regard to the Catholic legends that whether they are true or not as fact is of little consequence, provided they are true in spirit. I hope I shall not greatly shock you when I propose extending the canon to all history. I want for the young *legends* if you like, detached pictures of men and events, which may rouse their imaginations and appeal to their natural enthusiasm for everything that is great and noble in human nature.

My notions will seem so heterodox that I must fortify my position with some respectable authorities. Isaac Taylor says in his excellent book, "Home Education":

"History for children requires from beginning to end to be written anew. Nothing is gained by condensation in conveying this sort of instruction: what we want is the very contrary, viz.—amplification: but then it is not the amplification proper to erudite antiquarian memorials, but that which, first selecting whatever is most striking in incident or scenery, and most characteristic too of the people or of the times, spreads it in bold outline and strong colours upon a broad canvas." (p. 257.) So far Isaac Taylor. Mr. Fitch too in an article of his in the *Museum* gives some similar advice to this, and points to the Bible as putting before us model historical narratives for the young. As he remarks, everything there is always connected with a central man, and there is no attempt to give the whole history. Four hundred uneventful years are passed over with a sentence. Mr. Fitch's hint that the narrative should always be connected with a central man, seems to me specially valuable. We all know Tennyson's note of a high state of civilization—"The individual withers." The history of the world since those words were written has hardly confirmed the truth of them, but whether they are true or not, we may readily accept the converse proposition that young races and the young in all ages think rather of individuals than of nouns of

multitude; and if we can once get a child interested in a great man we have taught him some history, and not that only, but we have given him a valuable acquaintance for life. The great men, the great books, we learn to love when we are young are our most enduring friendships. If I may use so bold a figure, they are like the stars, which seem to move with us as we journey on, whilst all the literature of the day and the heroes of the hour are like the lamps by the road-side, brighter than the stars themselves which we are close to them, but soon out of sight when we have left them behind.

But teachers who are inclined to agree with me about history will feel that in this case theory or conception of our task does not at once suggest practice or the way of doing it. In a very good article on history in the new *Cyclopædia of Education** which we have lately received from America, I find the writer recommending us to tell children about persons and things in which they are sure to take an interest. American children will be interested in Columbus and will want to know all about him. This will lead to an account of the good Queen Isabella and of the country from which she sent him. This advice is excellent, but how few of us can thus turn ourselves into *ad hoc* biographers and historians! One of the ablest men and perhaps the most rapid worker in my acquaintance spends five hours in preparing each history lesson he gives his form. But few indeed of us have time or energy for a single hour's preparation; and in the nature of things we cannot without recent preparation have ready all the details which give life to a narrative. Our remembrance of the history is like a tree when the leaves have fallen. But the image we want the children to see is that of the tree with its summer foliage, and this we cannot show them without renewing all our previous knowledge. To escape from the labour of preparation most teachers set a certain portion of a book and then ask questions about it: and when the book is a good book and the pupils are old enough to read books with intelligence and interest, this is a very good exercise: but before we come to this stage we want to make more lively impressions than books will give, though here too fit books may assist in giving them. What I wish to see is a series of good historical pictures—I do not mean word-pictures but actual pictures drawn, and, if possible, coloured. These pictures should give the most striking incidents in the lives of a few great men, men of action whose exploits would strike the imagination of children. I should like these pictures to be large and to serve for whole classes. Picture books are clumsy if of sufficient size to put a scene distinctly. These pictures should be accompanied by two books, one for the teacher giving in detail all the most striking anecdotes about the heroes of the pictures; the other book a reading book for the children, giving in large type

* Edited by Messrs. Kiddle and Schem. Some English writers have contributed, notably Dr. Donaldson of Edinburgh. The English publishers are Sampson, Low, and Co., and the publishing price 21s.

and simple language a few of the anecdotes which would be understood if read when the teacher had told the children the more complete story. This for the first course. In the second I should wish good biographical essays studied rather than continuous histories. Never mind about breaks in the knowledge. Where vital knowledge is in the mind it will, like a fire, spread of its own accord.

According to my notion of history the skill of the painter counts for even more than the subject he chooses. We must therefore get genuine literary artists, not school book makers, to write our histories for the young. But the few eminent writers who have attempted this task have set out with a false theory. Mr. Freeman has, I fear, unwittingly done much harm by writing and editing little epitomes which as epitomes are excellent no doubt, but which as school books are abominations. I was much gratified to hear that a lady who seemed admirably qualified to give us the books we want, and who had already written one book of the right kind, *Golden Deeds*, was publishing "Histories for the Little Ones." But even Miss Yonge thinks that "the Little Ones" have that eagle vision which takes in a whole landscape at a glance. In her History of Greece the first hundred pages are about the Heroic Age and end with the story of Midas. Some people might object that this is not history, but for my part I think this the best part of the book. Then we have the period which is generally considered the Historic Period, *i.e.*, from Solon to the division of Alexander's Empire, sketched in 150 pages; and in conclusion we have the fate of Greece from then till now summarised in 100 pages more. Thus in a volume of 350 pages we have the History of Greece from the Titans' attempt on Olympus to the Battle of Navarino; and of the 350 pages only 150 are given to the history which from the title would seem to be the subject of the book; and worse than this, so little attempt is made to fix the children's attention on the really striking events that the wretched expedition of Miltiades against Paros is told with at least as much detail as the Battle of Marathon.

Not only then has history for the young yet to be written, but it has to be written on a new theory before it can take its proper place in their education.

To sum up what I have been trying to put before you on this subject:

1. Our task is not to "teach history," but to give our pupils some notion of the pleasure to be derived from travelling in that vast region and consequently a desire of making as many excursions into it as possible.
2. We shall do this best by establishing points of interest, *i.e.*, by getting our pupils to take an interest in a few of the great heroes of history.
3. This interest may be best excited by what I have ventured to call "legends of the heroes," *i.e.*, tales about them in which their noble and picturesque acts are made to stand out, while

all that is less noteworthy for children is omitted or merely outlined to keep up a connected story of their lives.

4. This instruction will be much assisted by the use of pictures, and large pictures are far better than small.

5. In the following stage of instruction good biographical and narrative historical essays should be studied rather than continuous histories.

6. The main thing to be aimed at throughout is the *awakening an interest* in some great men and great events. The main thing to be avoided is attention to the kind of knowledge which "pays" in examinations just that knowledge, whether of facts or opinions, which is "in good form for writing out," and which enables the student to answer neatly and precisely, whether the question be about the Battle of Trafalgar or the Constitutions of Clarendon.

(*To be continued.*)

MILTON'S TRACTATE ON EDUCATION.

(*Concluded from p.* 142.)

In Milton's institution the vacations were intended to be short, but the time was not all to be spent in work without a break. "In this vernal season of the year, when the air is calm and pleasant, it were an injury and sullenness against Nature not to go out and see her riches and partake in her rejoicing with heaven and earth. I should not therefore be a persuader to them of studying much then after two or three years that they have well laid their grounds, but to ride out in companies with prudent and staid guides into all quarters of the land, learning and observing all places of strength, all commodities of building and of soil for towns and villages, harbours, and ports of trade. Sometimes taking sea, so far as our own navy, to learn there also what they can, in the practical knowledge of sailing and sea-fights. These journeys would try all their peculiar gifts of nature, and if there were any such excellence amongst them would fetch it out and give it fair opportunities to advance itself by." This, he says, will be much better than "asking Monsieurs of Paris to take our hopeful youth into their slight and prodigal custody and send them back transformed into mimics, apes, and kickshoes." Travelling about is to be deferred to the age of three-and-twenty, when they will be better able to profit by it. In Milton's time communication was far more difficult than now. Not only was a short trip abroad out of the question, but even travelling in England itself was laborious and slow. But even in our own day many of our young are entirely ignorant of the country to which they belong, although its character and resources should be the first foundation of sound political knowledge. In our own day we might go so far as to regard a knowledge of the whole world as the fitting conclusion to a liberal education, and Milton might, if he were

writing now, recommend an educational cruise, such as has been attempted in America and France. Of the diet, his last division, Milton tells us nothing except that it should be in the same house, and that it should be plain, faithful, and modest. In this we should all thoroughly agree with him. In conclusion, Milton anticipates some of the objections which might be raised against his plan on the score of its impracticability or its aiming at too high a standard. He knows that a scheme of this kind cannot be carried out except under the most favourable conditions, with teachers and scholars above the average. "I believe," he says, "that this is not a bow for every man to shoot in that counts himself a teacher, but will require sinews almost equal to those which Homer gave Ulysses; yet I am persuaded that it may prove much more easy in the essay than it now seems at a distance, and much more illustrious, howbeit not more difficult than I imagine, and that imagination presents me with nothing else, but very happy and very possible, according to best wishes, if God so decree and this age have spirit and capacity enough to apprehend."

Having gone at length, and I fear rather tedious length, into Milton's scheme, let us consider of what practical use it may be in the present day. The kind of education now much in favour amongst us is that of large public boarding schools. Such schools are in their present condition the growth of comparatively few years. The Rugby of Dr. Arnold scarcely rose above three hundred students, and the grammar schools scattered about the kingdom, in which so many great men have been educated, must always have been small in numbers. We must ask ourselves, therefore, how far it is possible at large boarding schools to carry out any considerable part of Milton's theory. The one essential condition to the acquisition of a wider curriculum of knowledge is that there should be a desire of learning in the pupil. The chief defect in all schemes of quick and easy education is that they pre-suppose no resistance on the part of the learner, whereas every practical schoolmaster knows that more than half his time and skill is taken up with overcoming that resistance. No one will deny that in the old days of public schools there was a great deal of idleness; boys were left very much to themselves; but the few who read at all were accustomed to read in a literary spirit. Some corner of the library, some favourite shelf of books, perhaps the peculiar care of some exceptional tutor sowed in the mind of an able boy the first seeds of wide and commanding learning. There are plenty of traces in old letters and diaries and school papers of the existence of this real love and knowledge. The Microcosm of Canning, the Etonian of Praed, the Rugby Magazine of Clough, could not have been written except by the possessors of a practised style and of great knowledge. Boys took the liveliest interest in each other's compositions, whether in living or dead languages. A good copy of Latin verses would be passed from hand to hand and copied out into a book. Several such extract-books are

extant dating from the latter part of the last century. The excellence which is valued now only as a means of obtaining marks and scholarships was then estimated at its own intrinsic worth. This I find seems to a great extent to have passed away. It would be difficult to point to a school magazine which contains any composition of real merit, fitted to take its place in permanent literature. Complaints are common that boys seldom read books for their own amusement, and are still less often in the habit of discussing points of literary criticism and style. There are many debating societies and literary societies, but we may be permitted to doubt if the discussions which take place in them, although carried on with readiness and fluency, exhibit any of the higher qualities of literary excellence. Nor can we wonder that this is the case. The great aim of the head-master of a large boarding school is to keep his boys constantly employed. Rightly or wrongly, he has come to the conclusion that the only remedy for the many evils which naturally result from mixing so many students together is that they should have as little time as possible to themselves. I have been told that in one of the best schools in England the head-master keeps a number of cards arranged in pigeon-holes in which is written what every boy in the school ought to be doing during every one of his working hours, both in work and play, and that in cases where the system had admitted ever so slight a flaw, the consequences were of the worst description. This appears to me very little better than the French system of *surveillance*. Indeed, the only difference is that in France a *pion* is always present in the play-ground and sleeps in the dormitories at night. Under a system of this kind a boy has no leisure for thought—work under the constant stimulus of competition—play organized with an elaborate scale of graduated prizes—school business and school discipline occupy the whole of his busy life, so that a lad of nineteen, if he be really energetic and conscientious, is as hard-worked as a man of thirty. The common enemy of boys and masters is the lounger or loafer, who wanders about doing nothing, whose feeble interest in the affairs of life is rarely fanned into an effective flame, who grows up to be a burden to himself and others. But we must not confound him with the serious, though perhaps eccentric, student, who shuns the paths of men, and delights in the river side, and the slope of the grassy bank, and the shade of protecting elms. In their efforts to get rid of the lounger, the schoolmasters are in danger of throwing out the child with the bath, and tearing up wheat and tares together with the same impetuous grasp. What are the results of a training of this kind? A healthy mind in a healthy body. But the healthy body is too often fitted only to exist in the open air, and will break down under the strain of a sedentary profession, while the healthy mind has no furniture but a complex of prejudices which passes under the name of common sense. The greatest statesman of our age has said that he was obliged to work so hard for his degree at Oxford

that he has found no work too hard for him since. He knew little or no mathematics when he left Eton, and in order to obtain his double-first he read twelve and latterly fourteen hours a day. This does not seem to have injured his constitution or to have indisposed him to a reasonable amount of fresh air and exercise in after life. But our modern schoolboy knows no such labours and no such struggles. His path of virtuous progress is marked out with fences and sign-posts, the road is macadamized with guides and extract books, and made smooth and easy by marks and examinations. Nothing is left to his own enterprise and ingenuity; he can always tell exactly where he is, and is sure to receive at the end of the long straight avenue the applause of the approving hookers. He knows how to get up anything. He is convinced that the whole duty of life is to be *doing* something, that is, to be going in for some competition. To sit in an easy chair and read a book is laziness in his eyes. His conversation is almost entirely about games. There is doubtless much to admire in this truly English product. He is far superior in vigour and manliness to a Frenchman or an Italian; but as he advances in life, and leaves his boyhood behind him, the gifts he has stored up for himself become of far less value. At the University, with all his hard reading, he cannot contend against those who have worshipped knowledge, with a more ardent love. He misses the broad and convenient highway with its measured mile-stones and its regular relays of official pundits. He has to make his way either across country, where he must choose his own line over banks and fences, or, still worse, through a primeval forest of unexplored study not yet subdued and made easy for the passage of man. The most valuable part of University training, the clash of mind upon mind, is closed to him because his studies do not represent ideas to him; and he has never regarded the things he has had to learn except as an wholesome exercise to be varied with other exercises of a different kind. The tripos and the schools awake his ardour, but he soon finds that even in them something more than mechanical plodding is necessary for success. In the world he is not likely to make much of a figure unless chance gives him scope for active enterprise.

If this is a fair picture, and I believe it to be one, of the natural results of our present system, can we regard it as satisfactory? I shall be told that, although the few may lose something, the many have been gainers; that our public schools are entirely reformed, that the idleness and dissipation of thirty or forty years ago exist no longer. Suppose that it is so. I would reply that in all educational matters we must consider not the many but the few, we must test our system by seeing whether it is really capable of producing work of first-rate merit. In the words of Mr. F. D. Maurice, "All experience is against the notion that the means to produce a supply of good ordinary men is to attempt nothing higher. I know that nine-tenths of those whom the University

sends out must be hewers of wood and drawers of water, but if I train the ten-tenths to be so, depend upon it the wood will be badly cut and the water will be salt. Aim at something noble, make your system such that a great man may be formed by it, and there will be a manhood in your little men of which you do not dream." I should like, therefore, to suggest as a subject for the discussion which I am informed will follow upon this paper, whether the time has not come to enquire carefully whether our present system of very large boarding schools is the best desirable, whether we are not in danger of losing in the next generation our most valuable elements of culture unless we adopt an organization which preserves the simple love of work and of acquisition of knowledge which is the natural condition of a healthy child. The best means of effecting this is by day schools, and in my opinion no great impulse will be given to the secondary education of England unless a network of day schools is drawn over the country. Day schools have many advantages over their rivals. They are necessarily far cheaper because the boys board and lodge at home and the masters are willing to do work for less remuneration as they have so much leisure time upon their hands. Many difficult questions of discipline do not arise in them, and their educational object is undisturbed by any conflicting currents. The home life is not lost, and a boy is allowed to grow up in the bosom of his family. Much, of course, is committed to the home: if that is bad the master's work is undone, if it be good and studious it forms his most valuable auxiliary. Much of the industry and learning of Scotland is attributable to this cause. The boy on his return home rehearses to his parents what he has learnt from his master, and the keenest interest is felt in the place which he holds in his class. If our experience of English homes is different, it is because we have not learned the habit of superintendence and because we are too ready to throw off responsibility when our children go to school, and think that their education is a matter which no longer concerns us. In countries where a system of day schools is understood, children become a source of education to their parents—they either lead them again over the paths which they have trodden in earlier years, or introduce them to new fields of culture which would have remained for ever closed to them. Some years ago I was travelling in Germany to visit the Thuringian solitudes, where the shade of Goethe still haunts the valley of the Ilm. As I passed through the little principality of Schwarzburg-Sondershausen and drove through villages and little towns at night every house was lighted up, and I could see the children writing their evening exercises by the petroleum lamp. The next day as I returned about dinner time the whole place was swarming with little boys and girls with satchels on their backs. In the town of Arnstadt groups of poor scholars were singing from house to house, just as Luther used to sing, to obtain money to take them to the University. Here I saw in full operation a system of education founded

on the home, reaching from the first elements of teaching to the best academical training which Europe can supply.

But it may be urged that this is only possible in a simple state of society, that in times of greater wealth and more complex civilization, the home is not fitted to take its part in the work. The children of a successful barrister, a hard-worked member of parliament, or a man of business cannot receive their father's care, and in many cases had better be at a boarding school. In that case I would plead that the school should be as like a home as possible in its essential particulars, offering perhaps a wider experience and opportunities for a fuller play of character, but never losing that simplicity and industry which disappears in our larger institutions. At such a school the young Macaulay was educated, and as Mr. Trevelyan says, "If Macaulay had gone to a public school, it is more than probable that he would have turned out a different man and done different work. So sensitive and home-loving a boy might for a while have been too depressed to enter fully into the ways of the place; but as he gained confidence he would not have withstood the irresistible attractions which the life of a great school exercises over a vivid eager nature; he would have sacrificed to passing pleasures and emulations a part at any rate of those years, which in order to be what he was, it was necessary that he should spend wholly among his books. Westminster or Harrow might have sharpened his faculties for dealing with affairs and with men, but the world, at large, would have lost more than he could have possibly gained. If Macaulay had received the usual education of a young Englishman, he might in all possibility have kept his seat for Edinburgh, but he could hardly have written the essay on Von Ranke, or the description of England in the third chapter of the history." Many letters of Macaulay's childhood from Little Shelford and Aspenden are preserved, and they record to us a cheerful, industrious, instructive society, lit up occasionally by the neighbourhood of the University. Latin, Greek, French, mathematics, politics, debating, poetry, history occupied his active mind from thirteen to sixteen. But he did not stand alone. No school of so small a size has sent out so large a proportion of distinguished influential men. If it is said that experience is against my view, and that all the most distinguished men, both in the Universities and the world, are educated at large boarding schools, I would answer that the experiment has never yet been fairly tried in England. This is an experiment which cannot be made on a worthless subject. If the flower of English youth go habitually to our public schools, it is not strange that the most successful Englishmen should come from these establishments. But I should still hope that public day schools would educate the great bulk of our youth, and that only a small proportion would find it necessary or advisable to remove from home. Of this we may be certain, that the greatness of a country is dependent more than anything else upon her schools, and that unfortunately not in the present

generation but in the next. It rarely happens that any great development of political or social activity takes place unless it has been preceded by a time of unusual intellectual stimulus. It is often difficult to discover the connection between cause and effect, but we may say with safety that the intellectual activity of the Elizabeth age produced the patriots of the great rebellion, the Frenchmen trained in the hardy school of Rousseau's Emile were just rising to manhood in 1789—the statesmen who carried the Reform Bill of 1832 were a direct produce of the University of Edinburgh at the end of the last century—the work of liberation was planned and provided for in the schools of Germany. If it is thus with political distinction, it is equally so with political disgrace and failure—the luxury and self-indulgence of our age prepares as an inevitable consequence the degradation of the next. What lot are we preparing for our children? We are extending education to the masses, examining more than we ever did before; we scarcely leave a hole or corner for the stupid or idle to creep into. But all this is of little worth unless the highest culture of the nation is maintained at its proper level. The lycées of France send out every year hosts of students modelled to order and prepared to pattern, but whatever intellectual enlightenment France can boast of, she owes to one institution of about a hundred students, the Ecole Normale. Then this is the question which I am really anxious to hear discussed. In the interests of the future of civilization, is it desirable that we should go increasing our large public boarding schools in which it is extremely difficult that literary interest should be paramount, or should we rather look to a network of classical day schools drawn over the country in which the home influence will not have lost its force, supplemented in exceptional cases by boarding schools of not more than 150 or 200 boys, large enough to embrace all varieties of life and character, but not large enough to destroy what is the vital principle of a successful school, a real and living enthusiasm for literature and learning?

GOVERNMENT CENTRAL BOOK DEPÔT.

LIST OF NEW BOOKS RECEIVED IN THE GOVERNMENT CENTRAL BOOK DEPÔT, BOMBAY, FROM 1ST APRIL TO 15TH JUNE 1879.

A fresh supply of the undermentioned English Books has been received from England:—

	Rs.	a.	p.
Chambers' Moral Class Book	0	12	0
Reid's Modern Geography	0	8	0
Arabian Nights' Entertainments (Nimmo)	2	8	0
Mackay's Outlines of Geography	0	8	0
Lamb's Tales from Shakespeare	0	8	0
Cowper's Poetical Works (Chandos Classics)	0	12	0
Arabian Nights' Entertainments (Dick's Edition)	0	4	0
Smith Barnard's Arithmetic	2	4	0

	Rs.	a.	p.
Cowper's Poems (Dick's Edition)	0	4	0
Thompson's (Edith) History of England	1	4	0
Routledge's Diamond Dictionary	0	8	0
Day's History of Sandford & Merton	0	8	0
Morell's Analysis of Sentences	1	0	0
Collins' Illustrated National Pronouncing Dictionary	0	8	0
Hiley's English Grammar	1	12	0
Colenso's Arithmetic	2	4	0
Philip's First School Atlas	0	8	0
Æsop's Fables (Milner)	0	8	0
Webster's Unabridged Dictionary, Pictorial, edition without Appendix	10	8	0
Irving's Sketch Book	0	12	0
Curtis' Outlines of English History	0	4	0
Chambers' Etymological English Dictionary	2	0	0
Scott's Lady of the Lake (Milner)	0	8	0
Pope's Homer's Iliad (Ditto)	0	6	0
Cowper's Poetical Works (Ditto)	0	8	0
Milton's ditto (Ditto)	0	8	0
Lethbridge's (an easy Introduction) History of India	0	12	0
Lockyer's Astronomy (Science Primers)	0	8	0
Hooker's Botany (Ditto)	0	8	0
Collier's History of the British Empire for senior classes (Nelson's School Series)	1	4	0
Balfour Stewart's Physics (Science Primers)	0	8	0
Geikie's Geology (Ditto)	0	8	0
Nuttal's Walker's Pronouncing Dictionary	0	8	0
Nelson's Brief History of England (Royal School Series).	0	4	8

MEDICAL BOOKS.

Bowman's Practical Chemistry, 7th Edition, 1878	3	4	0
Nicholson's Manual of Zoology, 5th Edition, 1878	7	0	0
Fenwick's Medical Diagnosis, 4th Edition, 1876	3	4	0
Taylor's Medical Jurisprudence, 9th Edition, 1874	7	0	0
Bently's Manual of Botany, 3rd Edition, 1873	7	0	0
Park's Practical Hygien, 5th Edition, 1878	9	0	0
Garrod's Materia Medica & Therapeutics, 7th Edition, 1879	6	4	0

New Editions published.

SANSKRIT.

Kielhorn (Dr. F.)—Panchatantra, Book I, edited with Notes, 3rd edition, 1879 (No. IV. of the Bombay Sanskrit Series)	0	14	0

MARATHI.

Patavardhan's Elementary Geography, Part III., 2nd Edition, 1879	0	2	6

	Rs.	a.	p.
GUJARATI.			
Hope's Departmental 7th Book, 7th Edition, 1879	0	12	0
Ditto 1st Book, 14th Stereotyped Edition, 1879.....	0	1	6
ANGLO-MARATHI.			
Green's English Phrases with their Idiomatic Marathi Equivalents, by S. V. Háté, 2nd revised Edition, 1879.	1	0	0

New works published by the Department.

MARATHI.			
Chhatré (K. L.)—Padartha Vidyan; or a Primer of Physics	0	12	0
GUJARATI.			
Mahipatram's Bharata Khandano Itihasa, or a Manual of the History of India	0	10	0

DEPARTMENTAL NOTICES.

Form of Application for Pension or Gratuity.

GENERAL LETTER No. $\frac{P}{3500}$

Pension Branch.

From the ACCOUNTANT GENERAL,

To the EDUCATIONAL INSPECTOR, Central Division, Poona.

Dated Bombay, 9th June 1879.

SIR,—With a view to reduce as much as possible the delay which takes place in the disposal of applications for pension or gratuity, as well as the correspondence with this office in connection therewith, I have the honor to invite your attention to the following rules in the Civil Pension Code, the non-observance of which has frequently caused much delay and consequent hardship on persons who have already retired.

General.

2. Every non-gazetted officer holding a substantive appointment on a permanent establishment, whether in an inferior or a superior grade, with the exceptions mentioned in section 82, is required to keep a service book.

3. Every step in the official life of an officer should be recorded in his service book, each entry being *contemporaneously* attested by the head of the office—Section 82.

4. Leave of every description (except casual), every period of suspension from employment, and every other interruption in service should be noted with full detail across the page of the service book and attested by the head of the office or other attesting officer—(Section 82, Rule 3).

5. All erasures in the service book should be properly attested—(Section 82, Rule 7).

6. An application for pension may be submitted even though the officer has not ceased to be borne on the establishment if it is supported by a certificate from the authority whose duty it would be to fill up the appointment if vacant, that the officer is likely within six months to retire from the public service—Section 83, Rule 1.

7. Explanation should be given in an application for pension—

(*a*)—Of apparent breaks in the service of the applicant—Section 83 (*d*).

(*b*)—Of the circumstances connected with his dismissal and restoration to office—Section 56, Rule 2.

(*c*)—Of reduction in his pay.

8. Also information as to—

(*a*)—Whether the authority who reinstated the applicant after suspension with forfeiture of a part of his allowances for the period of suspension, expressly declared at the time that the period shall count—Section 54, Rule 1.

(*b*)—Whether, on re-employment, the applicant refunded the gratuity already received, and if so, the date of such refund—Section 106.

(*c*)—Whether the temporary establishment on which the applicant was employed was subsequently made permanent, and if so, the number and date of the Government order sanctioning the same—Section 27, Rule 1.

9. If the applicant is a member of the Police Force and drawing less than Rs. 20 per mensem, the date from which he began to subscribe to the Superannuation Fund should be stated.

10. The horse and camel allowances of members of the Police Force should be shown distinctly from their pay in the history of services.

11. If the applicant has been employed on a Local Fund establishment, or his pay met in part by local contributions, the date previous to 1st April 1870, from which he has paid contribution to the Local Fund Pension Fund, as well as the several sources from which he has been paid during the whole period of his service, should be distinctly shown in the history of service.

12. When the character of service of an applicant for pension is reported to have been unsatisfactory the head of the department in which he is serving should record his opinion as to the reduction which should be made in the amount of the pension.

13. If it be found impossible to verify the service claimed, the officer receiving the application should take the affidavit of the applicant on *plain* paper (see Indian Stamp Act I of 1879, Schedule II, No. 1 C), and should also collect such collateral evidence as may be procurable; for instance, certificates such as those given by an officer to a subordinate on his leaving an office, and the testimony of contemporary servants—Section 84, Rule 5.

14. Applications for pension on behalf of members of the Revenue Survey Department, as well as inferior servants in all departments, should be supported by a certificate setting forth the correctness of the service claimed.

15. Directly an order of Government sanctioning a pension or gratuity is received by the head of an office a last pay certificate should be forwarded to the Accountant General as prescribed by the Note to Rule 9, Chapter 4 of the Civil Account Code.

Compensation Pensions.

16. Particulars of the saving effected by the abolition of an appointment should be fully set forth in every application for compensation pension—Section 59, Rule 6.

17. The nature of the change of establishment which has given rise to expenditure for compensation pension or gratuity, and the reasons for which it has been found impossible to provide suitable employment for the applicant, should be fully stated in the application—Section 59, Rules 1 and 2.

18. Immediately it becomes known that an officer must retire on the abolition of his appointment, the head of the office from which the officer is removed, should furnish to the Accountant General, as early as possible, and without waiting for his actual retirement, the fullest information that can be obtained regarding the officer's service, without waiting for the result of correspondence, which must cause delay—Section 92, Rules 2 and 3, and Government Resolution No. 2936, dated 21st August 1878.

Invalid Pensions.

19. The medical certificate must be in the form prescribed in Section 63.

20. An applicant for invalid pension, if under fifty-five years of age, should not be discharged from the service before being pronounced unfit by a Medical Officer—(Government Resolution, Financial Department, No. 3667, dated 24th July 1876.)

21. If the examining Medical Officer, although unable to discover any specific disease in the officer to be pensioned, considers him incapacitated for further service by general debility while still under fifty-five years of age, he should give detailed reasons for his opinion, and, if possible, a second medical opinion should always in such a case be obtained. Special explanation will be expected from the head of the office or department of the grounds on which it is proposed to invalid the officer—Section 63, Note 2.

22. If an applicant for invalid pension is less than sixty years old the requisite medical certificate should be attached to the application—(Section 85, Rule 2).

23. If the medical certificate is dated after the applicant ceased to be borne on the establishment, an explanation thereof should be given.

24. The head of the office should certify to the incapacity for

further service of an inferior servant whose age is sixty years and upwards.

Gratuities.

25. If the commuted value of a proposed gratuity according to Table A., Appendix E., exceeds two rupees a month, the application should be supported by a certificate from a Commissioned Medical Officer or Medical Officer in charge of a Civil Station, setting forth that the applicant has the normal prospects of life—Section 105, Rule 5; and *Bombay Government Gazette* 29th November 1877, page 1007.

I have the honour, &c.,

(Signed) E. GAY,

Officiating Accountant General.

"True copy" published for the information and guidance of officers in the Central Division.

T. B. KIRKHAM,

Acting Educational Inspector, C.D.

Poona, Office of the Educational Inspector, C. D.,
25th June 1879.

"Examination Leave" applicable to University Examinations.

NOTIFICATION.

The subjoined Government Resolution No. 675, dated 30th May 1879, is published for the information of Educational officers.

By order of the Director of Public Instruction.

JNO. BOCARRO,

Head Assistant.

Poona, Office of the Director of Public Instruction,
5th June 1879.

No. 675.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 30th May 1879.

Letter from the Director of Public Instruction, No. 291, dated 23rd April 1879—Requesting that Government will decide whether examination leave is admissible for the Bombay University Examinations. Stating that it has hitherto been the practice to give examination leave to an Assistant Master going up for the degree examination, but that the Accountant General has now checked 5 days given to an Assistant at Tanna, on the ground that the examination is not compulsory. Submitting remarks, and observing that, for reasons stated, the privilege should be extended to those who go up to the University.

Report by the Accountant General, No. 1.A.-2634, dated 10th May 1879—Stating, with reference to this Department endorsement No. 537 of 1879, that if Government are pleased to declare

that any examination must be passed before an Assistant Master is eligible for a higher appointment, there would seem to be no objection to allow examination leave; but unless the passing is made compulsory the rules do not admit of such leave being given. Adding that it is for Government to consider whether the ordinary rules for privilege leave do or do not give sufficient facilities for passing such examinations.

Report by the Director of Public Instruction, No. 681, dated 19th May 1879—Stating, in reply to this Department reference No. 613 of 1879, that, under certain rules quoted, no Assistant, who is merely matriculated, can be permanently appointed to a place of more than Rs. 75; that in the Educational Department graduates have for years had the preference over undergraduates, which preference is now extended even to the Revenue Department, and that it would be unreasonable to put obstacles in the way of a man who desires to take a degree and so qualify for promotion. Adding that, with regard to privilege leave, the rules do not allow it to employés enjoying vacations, except for emergent reasons.

Resolution.—As privilege leave is not ordinarily granted to educational employés who enjoy vacations, and as there are definite rules in force in the Educational Department making promotion in High Schools conditional on the passing of University Examinations, His Excellency in Council considers that examination leave is admissible to those to whom these rules apply.

(Signed) J. B. Peile,
Acting Chief Secretary to Government.

To the Director of Public Instruction, the Accountant General, Bombay.

APPOINTMENTS AND CHANGES.

Monthly List of Appointments and Changes in the Educational Department, from the 16th May to the 15th June 1879.

21st *May* 1879.—Six months' leave, on private affairs, is granted to Mr. V. K. Chiplunkar, Second Assistant Master, Ratnagiri High School.

30th *May* 1879.—Mr. K. J. Sanjana, M.A., is appointed First Assistant Master, Dhulia High School.

30th *May* 1879.—Mr. D. G. Kelkar, M.A., is appointed Acting First Assistant Master, (Marathi side), Elphinstone High School.

31st *May* 1879.—Mr. Balwant Ramchandra Sahasrabudhe, B.A., is appointed substantive *pro tem.* Third Assistant Master, Poona High School, *vice* Mr. Gharpure.

31st *May* 1879.—Mr. K. P. Gadgil, F.A., is appointed substantive *pro tem.* Fourth Assistant Master, Poona High School, *vice* Mr. Sahasrabudhe.

31st *May* 1879.—Mr. A. R. Atre, B.A., is appointed substantive

pro tem. Fifth Assistant Master, Poona High School, *vice* Mr. Gadgil.

31*st May* 1879.—Mr. R. N. Nalsar, B.A., is appointed substantive *pro tem.* Sixth Assistant Master, in the Poona High School, *vice* Mr. Atre.

31*st May* 1879.—Mr. H. R. Patvardhan, F.A., is appointed substantive *pro tem.* Thirteenth Assistant Master, Poona High School, *vice* Mr. Nalsar.

31*st May* 1879.—One year's leave, without pay, is granted to Mr. Mathuradas Amrutlal, First Assistant Master, Junagadh High School.

31*st May* 1879.—Mr. M. S. Apte, B.A., is appointed substantive *pro tem.* First Assistant Master, (Canarese side), Belgaum High School.

31*st May* 1879.—Mr. S. R. Master, B.A., is appointed Junior Dakshina Fellow in the Gujarat College, from the commencement of the next term.

31*st May* 1879.—Mr. N. V. Kopper is appointed substantive *pro tem.* Ninth Assistant Master, Dharwar High School.

2*nd June* 1879.—Two months' privilege leave is granted to Mr. Bapu Sammawant, Assistant Deputy Educational Inspector, Ratnagiri Sub-Division.

6*th June* 1879.—Mr. V. B. Parachure, F.A., is appointed on probation Sixteenth Assistant Master, Poona High School, *vice* Mr. Patwardhan, transferred to Dhulia.

7*th June* 1879.—Mr. Tarachand Shankiram, Acting Persian Teacher in the Hydrabad High School, is appointed Acting Second Assistant Master in the same School, *vice* Mr. Tekchand.

7*th June* 1879.—Mr. Murajmal Valiram, Fourth Assistant Master, Hydrabad High School, is appointed Persian Teacher in the same School, *vice* Mr. Tarachand.

7*th June* 1879.—Mr. B. A. Khare, F.A., is appointed substantive *pro tem.* Fifth Assistant Master, Ahmednagar High School.

10*th June* 1879.—Mr. Hari Ganesh Gadhole, B.A., is appointed Acting Second Assistant Master, Ratnagiri High School.

11*th June* 1879.—Mr. K. S. Pandia, B.A., is appointed substantive *pro tem.* First Assistant Master, Junagad High School.

13*th June* 1879.—Mr. Nilkant Vinayek Chhatre, B.A., L.C.E., is appointed Junior Dakshina Fellow in the Deccan College.

14*th June* 1879.—Two months' sick leave is granted to Mr. Ganesh Venkatesh Joshi, B.A., Second Assistant Master, Nasik High School.

14*th June* 1879.—Mr. G. P. Mankrikar, F.A., is appointed Acting Second Assistant Master, Nasik High School, *vice* Mr. Joshi, on leave.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction, 17*th June* 1879.

THE

Bombay Educational Record.

No. 8.] AUGUST 1, 1879. [Vol. XV.

THE MONTH.

We referred last month to a recent resolution of the Birmingham School Board on the subject of Moral Instruction in the Board Schools. We give further on a report of Mr. Dixon, the Chairman's speech and the debate upon the motion which have attracted, as may be imagined, a great deal of attention. The motion of Mr. Dixon is regarded as reactionary by the advocates of a purely secular national education, and by those who hold that religion should be taught in national schools as a great triumph, inasmuch as it looks like a practical admission of the failure of the attempt to dispense with formal moral or religious instruction in schools. We give the debate in full, and we shall also look forward to the report of the Committee now appointed to consider the best means for giving effect to Mr. Dixon's proposal. The subject has more than a theoretical interest for the masters and managers of schools in India, and the thorough ventilation of the matter in Birmingham may possibly be of assistance to those who have experienced analogous difficulties in connection with moral instruction in our schools here.

The Russian Minister of Public Instruction has addressed a circular to the heads of the various educational districts enjoining upon them the greatest circumspection in the selection of teachers and instructors, with a view to checking the pernicious influence which the propagators of false doctrine exercise over the scholars.

The *Athenæum* understands that a movement is in progress for establishing a Society of English Literature, which is designed to occupy in England the place which is occupied by the Société des Gens de Lettres in France, and by similar bodies in Austria, Belgium, and Germany. This project is an outcome of the meetings of the International Literary Congress.

The following are the subjects for discussion on educational questions at the Social Science Congress, to be held at Manchester:—1. In what way should local self-government be developed as regards education, and what is the proper connection between voluntary and School Board schools? 2. What should be the curriculum in middle-class schools, and what influence may Government beneficially exercise on the schools and on their teachers? 3. What subjects ought to be taught in elementary schools, and in what way can the present system of inspection of these schools be advantageously altered?

The State of Massachusetts, with a population of between one and a half and two millions, expends upon education 1,000,000*l.* per annum, maintains 5,750 schools, employs 8,500 teachers, and enrols 310,000 pupils.

At a recent entertainment in a school at Chicago a letter was produced, dated April 6, written by Mr. Longfellow, the great American Poet, in which he said, in answer to a letter sent to him:—"I can only send you, and the boys and girls under your care, a friendly salutation. To those who ask how I can write 'so many things that sound as if I were as happy as a boy,' please say that there is in this neighbourhood, or neighbouring town, a pear tree planted by Governor Endicott 200 years ago, and that it still bears fruit not to be distinguished from the young tree in flavour. I suppose the tree makes young wood every year, so that some part of it is always young. Perhaps that is the way with some men when they grow old; I hope it is so with me. I am glad to hear that your boys and girls take so much interest in poetry. That is a good sign, for poetry is the flower and perfume of thought, and a perpetual delight clothing the common-place of life 'with golden exhalations of the dawn.' Give all my sympathy and good wishes."

A ROYAL PUPIL.

According to the *Journal de Bruxelles*, a rather curious mistake has been made by a Dutch professor of languages, which has entailed upon the new Queen of Holland much unnecessary trouble. It seems that as soon as the royal marriage was arranged it became necessary to find means to instruct her future Majesty in the

language of her future subjects; and as usual in similar cases, a learned gentleman was told off from one of the universities to give the necessary instruction. In order to understand the way in which he acquitted himself of the task, it is necessary to explain that the Dutch language at the present day is of a two-fold character. The joke about "double Dutch," however it may have originated, is certainly justified to some extent by facts, and is illustrated by the incident that has so lately occurred to the Queen. For the ordinary Dutch of the period—that which is spoken by peasant and peer—is very widely different from the language in which the literature of Holland is written. The professor, when despatched on his gratifying mission, may possibly have had some doubts which of these two dialects it was that the Princess was to learn. As he was not very conversant with the manners and customs of the Court, he ended by making up his mind that a royal personage ought certainly to speak the classical language of the country; and, without asking any one's opinion, he set to work as soon as he arrived at Arolsen, where the Prince of Waldeck-Pyrmont resides, to teach his royal pupil the more orthodox but practically obsolete Dutch. Everything seems to have gone well, and the Princess made excellent progress, so that before the day of the wedding she was quite proficient in what she supposed to be the language of her new subjects. What must have been her surprise to find that all her best efforts to converse with burgomasters and humbler folk who came out to do her honour were as complete failures as if they had been addressed to the bearers in High German! The unfortunate lady has had to devote her honey-moon to acquiring a second Dutch language, of which she never suspected the existence. In return, she has the consolation of knowing that she will be able to enjoy whatever beauties or charms there may be in the literature of the Netherlands—*Globe*.

ROSE LEGENDS.

In the neighbourhood of Jerusalem is a pleasant valley, which still bears the name of Solomon's Rose Garden, and where, according to a Mahommedan myth, a compact was made between the Wise Man and the Genii of the morning Land, which was writ, not in blood, like the bond between Faust and Mephistopheles, nor in gall, like our modern treaties, but with saffron and rose water upon the petals of white roses. In Paris, in the sixteenth century, an edict was issued requiring all Jews to wear a rose upon their breast, as a distinguishing mark. In the Catholic Tyrol, in the present day, betrothed swains are expected to carry a rose during the period of their betrothal, as a warning to young maidens of their engaged state. Roses have played, and still play, an important part in popular usages in many other parts of the world. In Germany, young girls deck their hair with white roses for their confirmation,

their entrance into the world; and when, at the end of life's career, the aged grandmother departs to her eternal rest, a last gift, in the shape of a rose garland, is laid upon her bier. Julius Cæsar, it is recorded, was fain to hide his baldness at the age of thirty with the privilege of the Roman rose garland as American hid the snows of eighty under a wreath of roses. At Mid-Lent, the Pope sends a golden rose to particular churches or crowned heads, whom he desires especially to honour. Martin Luther wore a rose at his arms. In these instances the rose serves as a symbol of ecclesiastical wisdom. A rose was figured on the headsman's axe of the Vehmgericht. Many orders, fraternities, and societies have taken the rose as their badge. The "Rosicrucians" may be instanced. The "Society of the Rose," of Hamburg, an association of learned ladies of the seventeenth century, is a well known example. It was divided into four sections—the Roses, the Lilies, the Violets, and the Pinks. The lady Mechardes instituted in France the custom of "La Rosière," by which, in certain localities, a money gift and a crown of roses are bestowed on the decorous and most industrious maiden in the commune. At Trevies, a curious rose feast is or was held annually. A castle was erected with tapestry and silken hangings, and defended by the best-born maidens in the city against the attacks of the young bachelors, almonds, nutmegs, roses, and squirts filled with rose water being the ammunition freely used on both sides.—*Gardner's Magazine.*

THE RUSSIAN LANGUAGE.

A report has been published by the School Board for St. Petersburg respecting the difficulty encountered by children of Finnish extraction in acquiring the Russian language. Three-fourths of the pupils who annually endeavour to quit the Finnish elementary schools for the Government gymnasia, are plucked in Russian, and the result is naturally discouraging both to the Finnish and the Russian authorities. A pedagogue, at the indigation of the Board, was despatched, last autumn, on a journey through Finland to examine the cause of this defect; and on his return, he said that, if three years were required to prepare Russian children for the gymnasia, at least twice that duration was necessary for Finns, as they only spoke Russian in the class, and even then made no rapid progress. The Finnish language is so very simple, and the Russian language—both in form and composition—so utterly different from it, that the children cannot grasp its bewildering intricacies; and on quitting their own unsophisticated speech, they get "floored" immediately by the ponderous decasyllables and mouth-twisting consonants which make up the bulk of Russian. But, when one comes to examine the system of teaching in vogue in Finland, the wonder at the sluggish progress ceases. Of all European languages, Russian is the last that should be learned by grammar and dictionary

alone. It has so many inflections and puzzling grammatical rules, and these are clogged with such lists of exceptions, sub-exceptions, and minor sub-exceptions, and words which, like the comets, have an indefinably erratic course of their own, that the student of books becomes bewildered, and throws up the study in disgust. But while children in Finland fail to make headway against Ivanoff, or any other Russian grammarian, those who are early sent to Russia to live pick up the language, not in six years, indeed, as preposterously proposed by the St. Petersburg pedagogue, but often in as many months. The phenomenon is easy to explain. The latter pursue the colloquial system of learning the language in the concrete, which in every country is infallible; while the former fail, as ninety out of every hundred would-be linguists fail in this country, because they waste their time in learning all about the language when their real object is to master the language itself.—*Globe.*

THE BIRMINGHAM SCHOOL BOARD AND MORAL INSTRUCTION.

At the meeting of this Board on May 1, the chairman, *Mr. G. Dixon*, moved:—"That, in the opinion of this Board, it is desirable that systematic moral instruction be given in all the Birmingham Board schools." He said that moral instruction was already given in the schools. It was given by the discipline of the school, also by their reading books; and was specially given by the scheme for promoting kindness to animals, in which the Board had taken a great interest, and the examinations for which had been undertaken by the officers of the Board. Therefore he was only advocating an extension of this moral teaching already given in the Board schools. But besides an extension of it, he wished it to be systematised—that there should be a special time set apart for the giving of it, and that moral instruction should be the subject of special lessons. The benefit which he thought might be derived from giving this moral instruction in a systematic manner was that they should be able to make the children more conscious than they otherwise would be of the fact that they have consciences, and that they might become better acquainted with the meaning of right and wrong; that they might have instilled into their minds what was sometimes called the ideal of duty. He took it that a great step would be gained if they could awaken in the minds of their children the knowledge of the fact that they had consciences; that they had duties to perform; and that they sometimes did right, and sometimes wrong. Further, he wished that positive instruction should be given with reference to the moral laws which governed society; that the children should be taught what those laws were; and that they should be enforced upon them by illustrations taken from their own daily life.

In this way they might give to their children a very wide, definite, and complete knowledge of those laws which they wished them to obey. For instance, to tell the children that they were not to be untruthful or disobedient, that they were not to steal or be unpunctual, was to tell them what was their daily duty in life. If they told them that it was their duty as well as it would be their happiness to be gentle, and kind, and forgiving, to be temperate in their habits and thrifty, and to increase that kind of consideration for all that they came in contact with which would lead up to the recognition and the carrying out of the great law of self-sacrifice, which underlay all morality as well as all religion, then they would have brought before their minds ideas of which otherwise they might be ignorant, and it would impress them in a way that could not fail to be extremely useful in after-life. With regard to the elder children, he should like to carry the teaching a little further and give them a knowledge of the public law in this country, and the penalties inflicted upon those who disobeyed the law. In order to do this efficiently there ought to be a manual; and if there was not a suitable one in existence then he should propose that one be written specially for them, which would not be difficult to do. If they succeeded in carrying out these views in the schools, his impression was that they would confer a great blessing upon the teachers as well as upon the children. If the teachers had to teach to the children truthfulness, punctuality, and kindness, it was possible that they would themselves become more punctual, kind, and truthful. In what he asked there was nothing that should be contrary to religion. He did not ask that any morality should be taught that would be subversive of, or contrary to, the spirit of the religion of the country. Indeed, he might say that if in the teaching of morality in the schools some should find that it would be an assistance to them to mention the name of the Creator and to dwell a little on immortality, they might do so, and he should not ask that blame should be thrown upon such teachers. If by these means they were able to develop the intelligence of the children, they would not find that their time was wasted, either in regard to intellectual instruction, or as regarded the earning of the Government grants. In addition to this increased intelligence, they would find that, when the children left school, they would be better prepared for acting as good citizens, and for receiving those religious influences which no member of the Board undervalued.

Mr. W. H. Greening said that it was very difficult for any one to vote against the resolution which the chairman had submitted. There were none of them but felt that it was of the highest importance that the children should have morality taught in the most systematic manner; but to vote for it in its present form was very difficult for some of them. Therefore, he proposed not to suggest a complete amendment to the resolution, but rather to add a rider to the resolution as follows:—"and for that purpose the Bible be

need in the schools." He was profoundly convinced that the best, the safest, and the surest way to accomplish the object proposed would be to make the Bible the basis of such moral teaching. The fact of the chairman having moved the resolution before the Board was in itself an admission of a most decided character that the present system was defective and incomplete. He took the resolution as a distinct declaration of the chairman's conviction that the present system was defective, and that it was insufficient for the moral training of the children in their schools. He could scarcely conceive it possible that in the nineteenth century any one acknowledging the Divine origin of the Christian religion as the grandest system of morals and the most complete epitome of virtue should have suggested systematised morals without having them systematised on the basis of that religion. He was sure that no plan of systematically inculcating morals was possible apart from the Book which contained the rule of faith and of life. Surely morality and virtue were nowhere set forth as they were in that Book, and nowhere enforced by motives so powerful. Were they to cast on one side the highest instruction that could be put into the hands of teachers and scholars, and attempt to frame something out of the ingenuity or convictions of other individuals? He denied that it was a question of expediency. He believed it to be impossible to establish any systematic morality, or to inculcate it, which should be effectual for its purpose without inculcating it by means of Bible teaching. He was not going to weary the Board by any discussion as to whether it was possible for man to be moral without a Divine revelation and without the motives and incentives of religion. What did they mean by morality? The chairman had defined it when he said that they wanted the children to be more conscious that they had a conscience; and to be more able to distinguish between right and wrong. If so, how were they going to secure it? Clearly, they were not willing to leave it simply to intuition on the part of the children, to their own unaided moral sense? If they would enforce it by examples and precepts, he said those examples and precepts were to be found nowhere as they were in the Bible. Would they say that they were going to compile a manual which was better than the Bible, or that they were going to tabulate illustrations and specimens of virtue better than those in the Bible? Were they not willing to leave it with the teachers to teach morals by illustrations drawn from the Word of God? The question suggested by such a resolution was whether they had any need of Christianity at all. Were they prepared to cast the Bible on one side, treating as a matter of indifference whether it were used or not? The chairman had said that if the teacher should think it to be necessary to use the name of the Creator, or to refer to the subject of immortality, he should not be blamed. He (the speaker) contended that the Bible lay at the foundation of moral duty as well as religious duty, and contained the highest incentives to proper moral

conduct. With the Bible in their possession they were not left to a choice of means. It was because he believed that the object of the resolution would be the more successfully attained by means of the Bible that he moved the rider to the resolution, and not from any desire to gain a party victory. He wanted the children taught systematic morality; but they could not teach with prospect of success by any means so calculated to attain it as by the use of the Bible.

The *Rev. R. B. Burges*, in seconding the rider, said that it had been the opinion of many persons for a long time past that the moral condition of the Board schools was anything but as satisfactory as all the members of the Board desired. He had been confirmed in this conclusion by the opening remarks of the chairman.

Dr. Langford moved, as an amendment:—"That the education committee be instructed to consider and report on the question whether it be desirable that systematic moral instruction be given in the Birmingham Board schools."

Miss Kenrick seconded the amendment.

The *Rev. H. C. Milward* pointed out that it had been said that it was possible to teach morality without the Bible; he thought it would be very difficult to teach it without reference to the Bible. He should be very glad to see the proposed manual prepared by the education committee. If it were done the Birmingham School Board would have added one more to the great benefits the Board had conferred upon the country, and they would have shown the country a line for which it should be grateful; but that it would be accomplished he for one despaired. He did not think the gentlemen on his side of the table ought to be twitted for speaking on this occasion, when they had not raised the great question on temperance or the kindness to animals matters. He contended that they were justified, as they now had a fair battle-field. He should vote for Mr. Groening's rider; and, if it were not carried, he intended to support the resolution, not that he thought it was practicable, but because something was required in addition to the present system, and he would rather see the motion carried than have nothing at all.

After some further discussion the *Chairman* replied; and after several divisions the original resolution was adopted, the voting being 10 for, none against, 4 remaining neutral.

The *Chairman* next moved:—"That the education committee be instructed to give effect to the foregoing resolution."

Mr. Groening suggested that the resolution should take this form:—"That the education committee be instructed to consider the report as to the best means for giving effect to the foregoing resolution." He thought that the subject was of such importance that it ought to come before the Board.

The resolution, as amended by Mr. Groening, was accepted by the Chairman, and adopted.

ARITHMETIC, HISTORY, AND GEOGRAPHY.

Geography.

Let us now consider the learning of a subject closely related to History, viz., Geography. Early lessons in history must be lessons in geography too, for in giving some notion of great men we must awaken an interest in their country. As the American writer says [*Cyclopædia of Education*], interest in Columbus leads to interest in his native Genoa and in Spain from which he sailed, in the ocean he crossed, and the islands he discovered. In this subject too I should make it the main object to establish centres of interest. But here I seem more hopelessly at variance with the makers of our school books than even about history. In preparing these lectures it occurred to me to walk over to the South Kensington Museum, which was not far off, and to examine the books from which children get their first notions of this subject. Here I was allowed to inspect a case full of geographies arranged in alphabetical order, and I looked through them, specially attending to those for children, from the beginning of the A's to somewhere in the B's. What was the result of my examination?

One of the first books I opened especially interested me, and that for several reasons. In the first place it was, as the title page announced, intended for use in the nursery, so it would show me what I wanted to get at, the very first lessons given to children. In the next place the publishers, Messrs. Simpkin and Marshall, a very respectable firm whose word I should not for a moment doubt, assert, also on the title page, that the number of copies issued up to the date of that edition was 182,000. This alone gives immense importance to the book. Some 200,000 children must have received their first impressions, which as we all know are enduring impressions, of the nature of geography from these pages. Besides this, there was a spice of local interest about the book, for though I had no information about the author except the name, "M. A. Allison," that particular edition, the 29th, had been improved and corrected to the present time (some eight years ago I believe) "by the Rev. Dr. Brewer, of Leeds." With the interest you take in education, you will not accuse me of wasting your time if I read you a lesson or two from a book which some years ago had introduced 200,000 children to geography, and for aught we know may be introducing thousands more now. I have to the best of my knowledge and belief taken quite fair specimens. Indeed I have taken them from the easier rather than the harder part of the book, as English names are simpler to us than foreign names. That I may not seem to give exceptional sentences I will read whole lessons:

Lesson 12. *Question.*—What are the principal rivers of England? *Answer*—The Severn, the Thames, the Humber, the Mersey, the Trent, the Medway. Q.—What are the principal lakes? A.—Windermere, Ullswater, Derwent-water, and Coniston. Q.—What

are the principal mountains? A.—Scafell and Skiddaw in Cumberland, and the Peak in Derbyshire. Q.—What are the principal islands? A.—The Isle of Wight, the Isle of Man, and the Isle of Sheppey. Q.—How many inhabitants has England? A.—17,000,000. Q.—What is the religion of England? A.—The religion of England as by law established is Protestant; but all forms of worship are permitted.

This is Lesson 12. May I venture to give you also Lesson 13?

Q.—What is a University? A.—A kind of school where gentlemen study. Q.—How many Universities are there in England? A.—Four; those of Oxford, Cambridge, Durham, and London. Q.—What does England produce? A.—Many kinds of fruit, corn, and other vegetables; and there are mines of tin, lead, iron, and coal; these are called natural productions. Q.—What are the manufactures of England? A.—Flannel, broadcloths, stuffs, muslins, silks, cottons, all kinds of hardware (such as knives, scissors, swords, guns, implements of trade and husbandry), and machinery. Many of these things are sent to other countries, and we have things from them in return.

Now do I read these extracts for the sake of ridiculing M. A. Allison or the Rev. Dr. Brewer of Leeds? By no means. If the teachers of this country are ready to pay them for writing out lists like these and getting the lists printed, who can blame them for doing this easy work? But what are we to say of the theory of the teachers? Some eighty or a hundred thousand teachers must have thought that the way to teach children geography was to make them learn these lists of names. When we are told that teachers require nothing but practice, and that there is a danger of making them theoretical if we give them any special knowledge, we may surely ask, would not these eighty thousand have been saved from egregious folly, folly resulting in the stultifying of thousands and thousands of young intelligences, if they had only been taught the simplest truths about their employment?

But I do not wish to be too hard on the teachers who avail themselves of the labours of M. A. Allison and the Rev. Dr. Brewer. With one exception I did not find the other books I examined much better than this. The next book I looked at was "Geography for Junior Classes," by Holst. Anderson. The author or publisher of this little book seems of opinion that small children should have small type, a point on which he differs, decidedly for the worse, from M. A. Allison and the Rev. Dr. Brewer. I will give you a short specimen of this work. Of Farther India the author remarks with truth that "this large and fine territory is little known," but he should have added—except to junior classes; for with his assistance the junior classes would give us a great deal of information about this large and fine territory. "The British territories," they would tell us, "lie along the West Coast, and include Aracan, Pegu, with the sea-port of Rangoon and Prome, 240 miles North; Tenasserim,

with the port of Moulmein, from which teak is largely exported; Penang, an island with exports of nutmegs; Malacca, with exports of tin and rattan canes; Singapore, a thriving sea-port, from which our chief imports are tin, rice, catechu, gutta-percha, pepper."

I next glanced at "The Student's Modern Geography, by W. L. Bevan, Vicar of Hay. This work seemed well adapted to furnish one of the twelve labours to any young Hercules who had disposed of the snakes of M. A. Allison and Robt. Anderson in the nursery.

But every one knows we are improving in our teaching of geography. Natural science has made its way into the school-room, and we now see the advantage of studying Physical Geography as the basis of all other geography. Mr. Fearon, in his capital book on School Inspection, has insisted that even in the elementary schools Physical Geography should come first. So I was glad to find the next geography for children gave us this newest improvement, and provided us with a manual. It was Bidlake's "Physical Geography for Children." The first chapter consists of a small page and a-half of print, divided into eighteen sections. This is the seventh section: "The earth measures about 25,000 miles round and rather less than 8,000 miles through the centre. The former is called its cir-cum-fer-ence; the latter its di-am-e-ter." The twelfth section runs as follows: "The earth is surrounded by a body of air called the at-mos-phere, consisting of a mixture of two gases oxygen and nitrogen." At the end of this first chapter of a page and a half the children are supposed to be able to answer the following questions:—

1. What is Geography?
2. What does it mean?
3. What does the word "physical" mean?
4. What is Common Geography?
5. What is Physical Geography?
6. What is the earth?
7. What is the size of the earth, its circumference and diameter?
8. What is its distance from the sun?
9. At what rate does it move?
10. What are its chief divisions? What is the extent of each?
11. What are the chief divisions of land and water?
12. By what is the earth surrounded?
13. To what height does it extend?
14. What is meant by climate?
15. Has it any influence on animals and vegetables?
16. What is Botany?
17. What is Zoology?
18. What is Ethnology?

Thus we see that Mr. Bidlake expects our children to be turned into young savants by studying the first page and a-half of his book. What would they be at the end of it?

The next Geography I examined was of a very different order from

the others I have mentioned. It was "Mary's Geography, intended for the use of children, by Frances E. Barbury." Here for the first time I found an attempt, and I have no doubt a successful attempt, to interest children in the subject. The little book seemed to me in many ways excellent, but even here use and wont proved too much every now and then for the lady who wrote it, and she has given names which in my opinion do nothing but harm. In reading Dr. Donaldson's interesting paper on Memory, in the American Cyclopædia to which I have already referred, I was struck with his answer to the question, Ought we to expect everything to be remembered? "No;" he says, "there are many details which tend to assist the mind in conceiving of the thing to be remembered, and these details when they have served their purpose may be forgotten." This seems to me the truth of the matter. I should not wish everything omitted which would not remain in the memory, but I should cut out everything which would not remain and which instead of impressing more important things would only distract attention from them. This lady's little book does here and there give some of these useless and injurious names. To take an instance at random. I have now been in the habit of passing Mechlin occasionally for more than twenty years. I have taken enough interest in it to break my journey on one occasion on purpose to see it; but till I looked into Mary's Geography I never knew and never wanted to know that Mechlin was on a river called Dyle. If at my time of life and after seeing the place I have never needed this knowledge, I doubt much if Mary can need it in the English nursery.

My examination was now nearly concluded, but I did just glance into a book of great renown, Butler's Geography. This, as every one knows, has lived through countless editions. The copy I took from the shelf was published within the last few years and edited by the Rev. Thomas Butler. We have lately found both in ourselves and other people—or, perhaps from motives of politeness, I had better speak only for myself, and I can do this in the most positive manner—most remarkable ignorance of the Turks and their history in Europe. But this ignorance does not extend to our writers of school-books and they pour out their information for the benefit of school-children

"Like wealthy men who care not how they give."

Many people have held that Geography had better be approached from the study of History. Dr. Butler, or his editor the Rev. Thomas Butler, seems of opinion that History had better be approached from the study of Geography. Here is a sketch-history of the Turkish Empire thrown in with his lists of Turkish places: "Turkey was occupied by the Greek or Western Empire till its decay. In 1338 the Turks first crossed into Europe: in 1453 Constantinople was taken and the last remnant of the Greek Empire destroyed. The Turkish conquests spread over Hungary and Poland till 1570. The first great check was given to their power by the Venetians, and from

the period of the overthrow of the Turkish army besieging Vienna, by Sobieski, King of Poland, in 1683, the tide of invasion rolled back until confined within its present limits." [Here, by the way, Dr. Butler or his editor in labouring to be brief becomes obscure. The tide of invasion, being confined within its present limits would seem to mean that for some time past the Turks have been engaged in invading Turkey. He goes on] "Greece was declared independent in 1827." [Then he adds with condensed wisdom] "The integrity of the Turkish Empire is now only maintained by the mutual jealousies of the great European powers."

I concluded my inspection by looking at "An Abridgment of Butler's Geography for the use of Children." The task of abridging a book for children, as now executed, is the simplest in the world. It is well known that the mental digestion of children is far more powerful than the physical digestion of the ostrich; so the abridger has nothing to do but to cut out all the clauses which do not contain proper names. Thus a book dry and unpalatable enough to begin with is rendered more dry and more unpalatable before it is considered fit for children. The abridger abridges it as he might abridge an orange by squeezing out the juice.

I have now given you the result of my inspection. It was a perfectly fair one: I took the books as they came, and I examined all that seemed intended for children. I do not think I have wasted your time or my own by making these extracts. They give us a terrible insight into a process from which vast numbers of our children suffer, not only at the time, but also in after-life—that process which Bradenell Carter has well called "The Artificial Production of Stupidity in Schools."

(To be continued.)

DEPARTMENTAL NOTICES.

Admission of University men to appointments in the Revenue Department.

NOTIFICATION.

The subjoined Government Resolution No. 3507, dated 4th July 1879, Revenue Department, is published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
8th July 1879.

Appointments. No. 3507.

REVENUE DEPARTMENT.

Bombay Castle, 4th July 1879.

Petition from Mr. Govind Sitárám Támhane, clerk in the office of the Collector of Sátára, dated 7th February 1879—Praying that the limit of two years prescribed by Government Resolution No. 6505, dated 17th December 1878,* within which non-graduates serving in the Revenue Department are to qualify themselves to become eligible along with graduates for the higher appointments in that Department be extended to ten years, and that rules prescribing the dates of the examinations required to be passed, be published at an early date.

Memorandum from the Collector of Sátára, No. R.C.-288, dated 18th February 1879—Forwarding the above with his remarks.

Memorandum from the Commissioner, C. D., No. R.-576, dated 3rd March 1879—Forwarding the above with a remark that he thinks that to suit the convenience of non-graduates there should be half-yearly examinations, the first to take place in June or July next, and that he also considers it would be held by all now in Government employ to be a most gracious concession if the term within which the examinations must be passed were extended to four or five years.

Letter from the Acting Commissioner, S. D., No. 694, dated 9th April 1879—Stating, after consulting the Collectors of his Division, that he fully concurs with the Commissioner, C. D., as to the desirability of holding half-yearly examinations and extending the time within which the non-graduates should pass them to four or five years.

Letter from the Acting Commissioner, N. D., No. 1232, dated 30th April 1879—Stating that he thinks that any one now in the service who wishes to enter the reserved Revenue branch should, on passing the lower standard examination, be held qualified for the post of head kárkun only, and should then rank along with graduates according to the date of passing the Departmental Examination, and that he should not be qualified for the post of mámlatdár until he has served as head kárkun; proposing therefore certain rules; observing that were restrictions, such as are suggested in the proposed rules, imposed, it seems to him the period of two years now fixed within which the Departmental Examination must be passed by non-graduates might well be extended to five years, and on its expiration, if thought desirable, extended for a further period of five years, or the restriction might be entirely removed; suggesting that graduates and non-graduates be permitted to appear at the Departmental Examinations held usually in April and October at Bombay; and enquiring whether, when no graduate or

* See Record for January last, page 12.—ED.

passed non-graduate is eligible for appointment as head kárkun or mámlatdár, such appointments should be filled up as hitherto by selection by the Collector or Commissioner.

Letter from the Acting Commissioner, N. D., No. 1449, dated 22nd May 1879.

Letter from the Commissioner, C. D., No. 1633, dated 13th June 1879.

RESOLUTION.—The rules laid down in Government Resolution No. 6505 of December 17th, 1878, cannot be modified.

2. Mr. Erskine has correctly understood the rule applicable to non-graduates serving in the Revenue Department prior to January 1st, 1879. When such non-graduates pass the lower Departmental Examination they become eligible for the appointment of head kárkun. They must serve as head kárkun for six months before they go up for the higher Departmental Examination, on passing which they become eligible for the office of mámlatdár.

3. The examinations prescribed in Resolution No. 6505 will be the ordinary Departmental Examinations of Junior Civilians and others held half-yearly. The subjects will be the same, but an additional District Revenue Officer of experience will be added to the Examiners, special papers may be set, and there should be a thorough *viva voce* examination in all the subjects.

4. Special notice should be given as early as possible to the Central Committee when any candidate under Resolution No. 6505 proposes to offer himself for either of the examinations.

J. B. PEILE,
Acting Chief Secretary to Government.

To the COMMISSIONER, N. D., the COMMISSIONER, C. D., the COMMISSIONER, S. D., all COLLECTORS, including the Extra First Assistant Collector in charge Panch Maháls, the SECRETARY to the CENTRAL COMMITTEE for DEPARTMENTAL EXAMINATIONS, the ACCOUNTANT GENERAL, the SURVEY and SETTLEMENT COMMISSIONER, N. D., the SURVEY and SETTLEMENT COMMISSIONER, S. D., the DIRECTOR OF PUBLIC INSTRUCTION, the JUDICIAL DEPARTMENT of the SECRETARIAT, the EDUCATIONAL DEPARTMENT of the SECRETARIAT.

Rules regarding purchase of articles of Dead Stock.

NOTIFICATION.

The subjoined Government Resolution, Financial Department, No. 2270 of the 2nd July 1879, is published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
14th July 1879.

Dead Stock.

No. 2270.

FINANCIAL DEPARTMENT.

Bombay Castle, 2nd July 1879.

Resolution of Government in the Judicial Department, No. 1628, dated 15th March 1879—Forwarding, for consideration and the issue of such orders as may appear desirable, extract paragraph 2 from the report of the Accountant General, No. T.A.A.-17542, dated 11th idem, on a charge of Rs. 27 incurred by the District Judge of Thána on the purchase of certain articles of dead stock, and wherein the Accountant General invites attention to the foot-note to the rule contained in paragraph 2, Chapter V. of the Account Code, and suggests that Government should issue instructions defining the nature and limit of charges which may be disbursed without sanction by a disbursing officer, as also the nature and limit of charge which a controlling officer is competent to sanction, and beyond which alone sanction of Government should be obtained.

Letter from the Accountant General, No. T.A.A-4340, dated 24th June 1879:—

"In compliance with Government memorandum No. 981, dated 21st March 1879, I have the honour to submit, for approval, the following rules regarding the purchase of articles of dead stock by the disbursing and controlling officers:—

1. Articles of office furniture required for a newly created office should in each and every case receive the sanction of Government in the Financial Department for the first time.

2. Articles of office furniture required to replace the old ones should be purchased by a disbursing officer provided the value of each of the articles does not exceed rupees thirty, and due provision for the same has been made in the budget for the year in which the charge is required to be incurred.

3. For articles required for the above-mentioned purpose the sanction of the controlling officer should be obtained if the value of each of the article exceeds rupees thirty, and the controlling officer can sanction the same to the extent of rupees fifty, provided there is budget provision for the same.

4. Articles of office furniture required in addition to those already purchased at the time the office was newly created can be purchased and sanctioned by disbursing and controlling officers respectively under the conditions laid down in Rules 2 and 3.

5. Ordinary articles of office furniture should comprise the following articles:—

Chairs.
Chests for records.
Desks.
Presses.
Tables.
Gongs.
Hour-glasses.
Inkstands, brass, for the Vernacular Department, when not supplied from the petty supply allowance.
Measuring chains.
Jajams and cushions for the Vernacular Department.
Desk covers, if not supplied by the Superintendent of Stationery.
Lamps, brass, for ditto.
Padlocks.
Scales for Huzur and District kacheris.
Shelves for records.
Screens (bamba chicks).
Treasure chests.

6. Officers who have no controlling officers can purchase articles of dead stock provided the value of each of the articles does not exceed rupees fifty, and a due provision for the same has been made in the budget for the year in which the articles are required to be purchased.

7. Articles supplied under special rules or of unusual character, such as those mentioned below, should not be purchased without the previous sanction of Government:—

Punches, as per Government Resolution No. 2829, dated 15th May 1879.

Mattings, the cost of which cannot be met from the office petty supply allowance as per Government Resolution No. 3976, dated 2nd November 1878, Financial Department.

Clocks, as per Government Resolution No. 4407, dated 27th October 1876, Financial Department.

Iron Safes.

Chubb's locks.

8. If articles of any description are required to be purchased in the absence of due provision in the budget, the sanction of Government should previously be obtained.

9. Jajams and desk covers should last 5 and 7 years respectively.

"2. At present under the sanction in Government Resolution No. 263, dated 4th March 1864, Financial Department, articles of dead stock, &c., not exceeding Rs. 500, are passed by this office without the sanction of Government if there seems no reason to question them. Perishable articles, such as carpets, flour cloths and covers for desks, are also passed without the sanction of Government, attention is solicited to Government Resolution No. 1622, dated 15th March 1879, Judicial Department."

RESOLUTION—The rules proposed by the Accountant General in his letter No. T.A.A.-4340, dated 24th ultimo, are approved, and should be circulated to all Departments of the Secretariat, and all Heads of Offices under the several Departments of the Secretariat, for information and guidance.

J. B. PEILE,
Acting Chief Secretary to Government.

To all DEPARTMENTS of the SECRETARIAT, all HEADS of OFFICES under the several DEPARTMENTS of the SECRETARIAT, the ACCOUNTANT GENERAL.

Books Sanctioned.

NOTIFICATION.

The Professor of Persian, Elphinstone College, recommends Mobed Aspandiarjee Barjorjee Panthoky's "Guide to the Persian Language" for use in High Schools.

2. The book can be obtained through the Curator. The price is Rs. 1½.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
14th July 1879.

Retirement of Rao Bahadur Kero Luxmon Chhatré.

No. 605.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 12th May 1879.

Letter from the Director of Public Instruction, No. 506, dated 7th May 1879—Reporting that Rao Bahadur K. L. Chhatré completes 55 years of age on the 16th instant, and recommending that an additional year's service may, for reasons stated, be granted to him.

RESOLUTION.—The recommendation of the Director should be approved, and the Accountant General informed.

(Signed) J. B. PEILE,
Acting Chief Secretary to Government.

To the DIRECTOR of PUBLIC INSTRUCTION, the ACCOUNTANT GENERAL, Bombay.

No. 839.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 14th July 1879.

Memorandum from the Director of Public Instruction, No. A, dated 25th June 1879—Submitting, for favourable consideration, a letter from Rao Bahadur Kern L. Chhatré, who requests that Government will allow him to take his pension at once, and states that he is prepared to hand over charge of the Deccan College and the Mathematical Professorship as soon as his successor is ready to relieve him.

RESOLUTION.—His Excellency the Governor in Council is pleased to accept the resignation tendered by Rao Bahadur Kern Lakshaman Chhatre, Acting Principal of the Deccan College, and at the same time to acknowledge the long and meritorious services in the Department of Public Instruction, which he has rendered with high credit for a period of nearly thirty years. Mr. Kern Lakshaman, after some years' service as Assistant in the Observatory at Bombay, was appointed lecturer in Mathematical Physics in the Civil Engineering College at Poona. In 1865 he was transferred to Elphinstone College as Professor of Mathematics and Natural Philosophy, and returned later in the same year to fill a similar appointment in the Deccan College. In this College the rest of his professional career has been passed, and he has on three occasions in the last four years been promoted to act as its Principal. While thus continuously engaged in the work of imparting instruction, Professor Kern Lakshaman was able to devote a portion of his time to research and scientific observation, and has twice earned the acknowledgments of Government for valuable reports of the results of his labours. His Excellency the Governor in Council desires to direct the emulation of Professor Kern Lakshaman's fellow countrymen to the above brief record of a laborious, useful and successful career, and to mark its conclusion by this expression of the high approbation of Government.

(Signed) J. B. PEILE,
Acting Chief Secretary to Government.

To the DIRECTOR of PUBLIC INSTRUCTION, RAO BAHADUR KERU LAKSHAMAN CHHATRE, the ACCOUNTANT GENERAL, BOMBAY, the EDITORS' TABLE.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
16th July 1879.

Red Ink.

NOTIFICATION.

The subjoined Government Resolution No. 2288 of the 4th July 1879, Financial Department, is published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
23rd July 1879.

Stationery. No. 2288.

FINANCIAL DEPARTMENT.

Bombay Castle, 4th July 1879.

Letter from the Superintendent of Stationery, No. 874, dated 26th June 1879 :—

"With reference to Government Resolution No. 2030, dated 12th June 1879, directing the Superintendent of Stationery to stop the issue of red ink made from Fuchsine aniline, I have the honour to state that, from enquiries made, it appears that red ink powder, which was in use prior to the introduction of Fuchsine as per Government Resolution in the General Department, No. 38, dated 6th January 1863, is not procurable in the local market. Merchants, Bankers, and others use the ink made of Fuchsine. To some extent ready made ink in bottles is also used by them. The contract price of one bottle of red ink is Rs. 1-1-0. The Government rate of $\frac{1}{4}$th oz. of Fuchsine, which is sufficient to make such a bottle of ink, is Rs. 0-2-8, thus showing a difference or additional charge of Rs. 0-14-4 per one bottle of red ink. The bottles are also unadapted for the purpose of the Stationery Department :—

1*st*.—They are not suited for transmission to out-stations, on account of damage during transit.

2*nd*.—The bottles are not always full on account of dryage.

3*rd*.—The quality of the ink in the bottles is indifferent.

"2. I beg, therefore, to suggest that the Officers and Departments concerned be authorized to make their own arrangements for the supply of red ink. It seems doubtful, looking at the opinion* originally expressed by the Chemical Analyser, whether the defect under notice can be cured. I beg to add that by underlining with red ink words which it is desired to render conspicuous and writing the words

* Report by the Chemical Analyser to Government, No. 66, dated 20th December 1862, embodied in Government Resolution No. 38, dated 6th January 1863, General Department.

themselves in black ink, the difficulty which has arisen may be in great part surmounted.

"3. The favour of early orders is requested."

RESOLUTION.—The proposal of the Superintendent of Stationery may be sanctioned.

J. B. PEILE,
Acting Chief Secretary to Government.

To the SUPERINTENDENT of STATIONERY, all DEPARTMENTS of the SECRETARIAT, all HEADS of OFFICES under the REVENUE, FINANCIAL, and GENERAL DEPARTMENTS, the ACCOUNTANT GENERAL.

Deputy Educational Inspectors and Schoolmasters.

NOTIFICATION.

An extract from the Standing Orders of the Educational Department is printed below:—

Extract from the instructions* issued to Deputy Inspectors in 1855.

Rule 26. "During your sojourn in any place you will not live as the guest of any schoolmaster."

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
24th July 1879.

Economy in use of Service Stamps and Envelopes.

No. 1615 of 1879-80.

MEMORANDUM.

The attention of the Deputy Educational Inspector * * * is called to the fact that his four communications, Nos. 60, 61, 62, and 63, all dated the 25th instant, were posted in four separate stamped covers, whilst one cover and one stamp would have sufficed. Communications sent on the same day to the same address should be put into one envelope when possible.

(Signed) T. B. KIRKHAM,
Acting Educational Inspector, C. D.

Published for general information and guidance.

T. B. KIRKHAM,
Acting Educational Inspector, C. D.

Poona, Office of the Educational Inspector, C. D.,
2nd July 1879.

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* See Annual Report for 1854-55.

Printing of Forms at Central Press.

The following Government Resolution No. 1630, General Department, dated 26th June 1879, is published for the information and guidance of Educational Officers in the Central Division.

T. B. KIRKHAM,
Acting Educational Inspector, C.D.

Office of Educational Inspector, C. D., Poona, 16th July 1879.

No. 1630.

GENERAL DEPARTMENT.

Bombay Castle, 26th June 1879.

Letter from the Superintendent, Government Central Press, No. 1857, dated 21st June 1879—Submitting one from the Collector of Bombay (No. 1125 of the same date), who forwards a form of license to sell imported spirituous and fermented liquors in quantities not less than one pint, states that, as the form is a temporary one and will undergo considerable alterations next year, he has not thought it advisable to obtain the sanction of Government to its inclusion in the list of sanctioned forms for his office, but should he (the Superintendent) think the sanction of Government to be indispensable, the same may be obtained as the form is required for immediate use; requesting sanction to the form being printed; and, with reference to the Collector's remarks, submitting that when an officer requires a form to be added, either temporarily or permanently, to the list of forms already sanctioned by Government for his office, it is the duty of the officer requiring the form to obtain the necessary sanction, he being able to explain the necessity for the form being printed, but, as there appears to be a doubt upon this point, requesting the favour of orders being passed for future guidance.

RESOLUTION.—The form may be printed.

2. Officers when requiring a new form, whether temporary or permanent, to be printed, should obtain the sanction of Government thereto before sending it to the Superintendent, Government Central Press.

(Signed) J. B. PEILE,
Acting Chief Secretary to Government.

Books Sanctioned.

NOTICE.

Rao Saheb Malupatram Rupram's History of India (Bharat Khandan Itias) is now available, and may be used in the Anglo-Vernacular and Vernacular Schools of the Northern Division, instead of the translation of Morris' History.

G. BUHLER,
Educational Inspector, N. D.

Ahmedabad, Office of the Educational Inspector, N. D., 25th July 1879.

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT FROM THE 16TH JUNE TO THE 15TH JULY 1879.

17th *June* 1879.—Mr. Maganbhai Vimawala, F.E.A., Third Assistant Master, Ahmedabad High School, is appointed substantive *pro tem.* Head Master, Balsar Anglo-Vernacular School.

18th *June* 1879.—Mr. Narayan Balal Supre, Head Master, Vernacular School, Nasik No. 1, is appointed Head Master Vernacular School, Yawal.

18th *June* 1879.—Mr. Mahadev Anant Soboni, Head Master, Vernacular School, Yawal, is appointed Head Master, Vernacular School No. 1 at Nasik.

18th *June* 1879.—Mr. Tatia Chintaman Ranade, Marathi Accountant, Educational Inspector North-East Division's Office, is appointed Marathi Karkun, Deputy Inspector's Office, Khandesh.

18th *June* 1879.—Mr. Govind Hari Thatte, Marathi Karkun Deputy Inspector's Office, Khandesh, is appointed Marathi Accountant Educational Inspector, North-East Division's office.

18th *June* 1879.—Mr. Shitaram Balkrishna Dandekar, Head Master Vernacular School, Panchavati, is appointed Head Master Vernacular School, Dhulia No. 2.

18th *June* 1879.—Mr. Janardhan Vinayeck Padhé, Head Master Vernacular School, Dhulia No. 2, is appointed Head Master Vernacular School, Panchavati.

19th *June* 1879.—An extension of one year's leave, without pay, is granted to Mr. B. S. Sahasrabudhé, Sixth Assistant Master, Satara High School.

21st *June* 1879.—Mr. Laxuman Balaji Gokhale, is appointed Acting First Assistant Master Training College, Dharwar, *vice* Mr. Koppar.

23rd *June* 1879.—Ten days' privilege leave is granted to Mr. M. N. Wadia, First Assistant Master, Surat High School.

23rd *June* 1879.—Six months' leave, without pay, is granted to Mr. G. N. Pandit, Acting Second Assistant Master (Marathi side), Elphinstone High School.

23rd *June* 1879.—Mr. Mahadev Bhaskar Chowbal, B.A., is appointed Acting Second Assistant Master (Marathi side), Elphinstone High School.

24th *June* 1879.—Mr. D. D. Shukla, B.A., is appointed Assistant Persian Teacher, Elphinstone High School, but will continue to be substantive *pro tem.* Fourth Assistant Master (Marathi side) in the same School.

24th *June* 1879.—Mr. R. S. Mirajkar, B.A., is appointed substantive *pro tem.* Assistant Persian Teacher in the Elphinstone High School.

28th *June* 1879.—Two months' sick leave is granted to Mr. K. V.

Dhairyawan, Fourth Assistant Master (Marathi side), Elphinstone High School.

28th June 1879.—Mr. S. T. Bhandaré is appointed Acting Fourth Assistant Master (Marathi side), Elphinstone High School, vice Mr Dhairyawan.

30th *June* 1879.—A month's sick leave is granted to Mr. Balaji Narayan Joshi, First Assistant Master, Nawanagar High School.

2nd *July* 1879.—One year's leave, without pay, is granted to Mr. Yadava Govind Parkhé, Third Assistant Master, First Grade, Anglo-Vernacular School, Ahmednagar.

2nd *July* 1879.—Mr. Gulabbhai G. Naik, First Assistant Master Branch School, Surat, is appointed substantive *pro tem.* Head Master Viramgaum First Grade Anglo-Vernacular School.

3rd *July* 1879.—Mr. J. M. Chichgar, is appointed Agricultural Teacher in the Surat High School.

3rd *July* 1879.—Mr. P. D. Modi, is appointed Agricultural Teacher in the Broach High School.

8th *July* 1879.—One month's sick leave is granted to Mr. Hari Ramchandra Patwardhan, substantive *pro tem.* Thirteenth Assistant Master, Poona High School.

8th *July* 1879.—Mr. Wasudev Krishna Bhat, is appointed Acting Thirteenth Assistant Master, Poona High School, vice Mr. Patwardhan, on leave.

9th *July* 1879.—One year's leave, without pay, is granted to Mr. M. U. Seth, substantive *pro tem.* Second Assistant Master, Broach High School.

9th *July* 1879.—Mr. Hormasji H. Bharucha, B.A., is appointed substantive *pro tem.* Second Assistant Master, Broach High School.

9th *July* 1879.—Mr. Kanaiyashankar Prannshankar Travedi, B.A., is appointed substantive *pro tem.* Eighth Assistant Master, Surat High School.

9th *July* 1879.—One year's leave, without pay, is granted to Mr. A. D. Sha, Head Master of the Morvi Anglo-Vernacular School.

11th *July* 1879.—Mr. N. M. Rego is appointed Agricultural Teacher in the Nasik High School.

11th *July* 1879.—Mr. C. Annamalai is appointed Agricultural Teacher in the Ahmednagar High School.

12th *July* 1879.—Mr. Ramrao Mahaling, B.A., is appointed substantive *pro tem.* Fourth Assistant Master (Marathi side), Belgaum High School.

14th *July* 1879.—Three months' leave, without pay, is granted to Mr. S. S. Patlak, Seventh Assistant Master, Dhulia High School.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction, July 1879.

THE

Bombay Educational Record.

No. 9.] SEPTEMBER 1, 1879. [Vol. XV.

THE MONTH.

We would direct the special attention of our readers to the very interesting and valuable report on Jute and Malachra Fibres drawn up by Mr. B. A. Gupte and printed under our Departmental Notices. Mr. Gupte's spirited appeal to the Agriculturists of Western India deserves thoughtful attention, and will, we trust, meet with a proper response.

We wonder how many times it has been laid down by authority that a report should be a report and not a treatise or essay or magazine article. The Chief Commissioner of Burma has just repeated this tolerably obvious instruction in his review of the report of the Officiating Director of Public Instruction in the province, and this time in the following plain language:—"Abstract speculation, discussion on matters of principle, and proposals for change in the constitution or management of a department are beyond the scope of a report such as the present, which should be as far as possible a plain narrative of the work done during the year."

Some time since, a large number of School Boards memorialised the Duke of Richmond, asking for a Royal Commission to investigate the desirability and practicability of effecting some change in the present English spelling, in the interests of educational progress. Since the presentation of the memorial, the supporters of the movement have formed a society, entitled the English Spelling Reform Association, with its head offices at 20 John Street, Adelphi. The association already numbers among its supporters many influential literary and political personages; among them the Bishop of Exeter, the Right Hon. Robert Lowe, Mr. Leonard Courtney, Mr. Mundella, Sir Charles Reed, Dr. Abbott, Professor Max Müller, Dr. Morris,

Professor Sayce, and Dr. Tylor. The association has no special scheme of reform to offer; but advocates the broad principle of improvement in spelling, and devotes itself to the collection of materials which will enable the public to form a judgment on the question.

The Geographical Society of Berlin some time ago issued a circular to all geographical societies and universities in Germany, reminding them that August 7 was the 100th birthday of Karl Ritter, the great geographer. They desired to celebrate this centenary becomingly; but, as the actual anniversary fell within the summer vacation, it was proposed that it should be celebrated on Saturday, October 11. The geographical societies and universities have been requested to send representatives to the Berlin celebration. There will be a solemn sitting of the Berlin Geographical Society, to be followed by a banquet, on the evening of the day named.

The delegates of the Clarendon Press are about to issue a new Latin Dictionary, based on Andrews's well-known edition of Freund's work; but revised, enlarged, and in great part re-written.

The *Athenæum* understands that Professor Huxley's long-promised "Introduction" to Messrs. Macmillan & Co.'s Science Primers is likely to appear soon. A considerable part is already in type.

There is to be a "Cambridge Chaucer." Mr. Henry Bradshaw, librarian of Cambridge University, and Mr. Furnivall, founder and director of the Chaucer Society, are to edit, and Messrs. Macmillan & Co. to publish, the book. It will be in six octavo volumes.

MANNERISM IN STYLE.

Almost every man has his tricks of writing, which are apt to grow upon him unconsciously. Sometimes they are so insignificant as to be almost unobjectionable, and yet they jar on the ear of the sensitive reader. As almost everybody must plead guilty, more or less, we have the less hesitation in alluding to these even at the risk of laying ourselves open to retort. They may be merely the unnecessary repetition of some conjunction which seems to lift the writer more comfortably across the rift which yawns between a couple of his periods. What strikes one more, of course, is the reiteration

of some epithet or qualifying adverb, which will invariably force itself to the front when the pen hesitates and pauses. For the use of words of the kind becomes well-nigh mechanical: actually they may serve their purpose at least as well as any other, and yet we believe that the most careless of readers come to recognise them with a sense of irritation. What is more strange is the affection which writers, who should be excellent judges of style, and who have had an infinite variety of literary practice, take for certain phrases and turns of speech which, to say the least of them, are singularly ungraceful. It would be in vain for these eminent gentlemen to make any attempt at concealing their identity; and we would undertake to draw up from memory a catalogue of words and phrases which should reveal the workmanship of any one of them—unless, indeed, they had been put on their guard, and had cut their work to pieces in the revising. For it is wonderful how some favourite phrase comes to fall naturally into its place in a sentence; if you stop to change it, you check the flow of thought, and are, after all, but indifferently satisfied with its substitute. Should any one care for illustrations upon the abuse of mannerism, we cannot do better than refer him to Thackeray's "Novels by Eminent Hands," or to some of the parodies and extravaganzas by the American humourists, though these are wanting in Thackeray's more delicate discrimination.—*Blackwood's Magazine.*

CLASSICS AT CAMBRIDGE.

A CHANGE, which is nothing less than a revolution, is about to take place at Cambridge. Hitherto the classical studies of that university—which boasts, not without pride, of having trained the greatest scholars of England, Richard Bentley and Person—have gone upon the lines of pure scholarship. Cambridge classics have attained to a marvellous skill in appreciating and making their own the refinements and intricacies of the Greek and Latin languages, but they have wholly neglected the substance, or thoughts, of the authors whose language they have analysed. Now everything is to be changed. After long consideration and a careful report by a committee, the senate has accepted, almost in its entirety, a scheme by which scholarship is no longer to hold the exclusive place in the classical tripos which it has so long enjoyed. Greek history, including the literature of Greece and Greek antiquities which will necessitate a close acquaintance with the recent discoveries of Dr. Schliemann and others; Roman history, literature, and antiquities; Greek grammar and criticism; and Latin grammar and criticism are to be subjects which will henceforward engage the attention of the student desirous of honours. In addition to these, or some of them, he will be expected to prove his accurate knowledge of ancient languages by translations from the best authors, and by his power

of writing Greek and Latin prose and verse. The senate has wisely decreed that all this information is not to be exhibited at one time. The examination is to be divided into two parts. On passing the first of these, the names of the students will be arranged in order of merit; but those who pass the second will be arranged alphabetically in three classes—another innovation. There can be no question that the honour man who gains distinction under the new system will possess infinitely more culture than his predecessors. Nor do we think that anything will be lost by the abolition of a somewhat invidious and insufficient method of arranging the classes.—*Globe.*

ARITHMETIC, HISTORY, AND GEOGRAPHY.

(*Concluded from page* 181.)

But perhaps those of my hearers who know more of the world at large than of the world of school will be tempted to say: "The teachers who use such books as M. A. Allison's are defective not so much in training as in ordinary intelligence. Before intelligence books of this kind would vanish as the toads vanished before St. Patrick. But if a man is a blockhead all the training and all the treatises and all the lectures on education we were ever afflicted with can't make a sensible man of him." This is the view naturally taken up by men of intelligence who have not made a study of the subject; but it is quite an outsider's opinion. We are all convinced that our intelligence in other people's circumstances would lead to vast improvements. This is a great mistake. If our intelligence puts up with our doing just what is usual in our circumstances, we may be tolerably certain that it would allow us to do just what is usual if we were in other people's circumstances. For want of proper theory and proper training teachers have hitherto been compelled to get on as best they could without any kind of guidance. By a natural law they have moved in the direction of least resistance, that is, they have kept to the beaten sheep-walks and gone on contentedly because they saw other sheep before them. I confess I should form a very low estimate of the intelligence of the first teacher who profited by the labours of M. A. Allison; but the hundred-thousandth teacher had by no means the same reason to be ashamed of himself. Whatever we may say about private judgment in religion, private judgment in other matters never can be largely exercised. Chaos would have come again if everyone were to abandon the ordinary method and to start one of his own invention. Indeed every profession is a body, and in all bodies the members perform certain actions made automatic by custom, or if they vary their procedure they do so in obedience to the brain. Now in a properly constituted body not only is the brain hard at work but also the connexion between it and the members is in perfect order. In medicine for instance the country doctor does not exercise his

private judgment; but he has walked a London hospital, he knows what the Jenners and Gulls think, has seen what the Pagets and Bowmans do; and he considers it his duty to keep himself informed of the latest improvements both in instruments and treatment, so that in the medical profession the action of the brain affects the action of all the members. But in the scholastic profession the members can only move in the habitual automatic fashion, for the brain and they have no connexion. In this country there are as I believe teachers who in point of intelligence and skill might rank with the most distinguished men in other professions. But no one knows what they think about education, no one but schoolboys has ever been present at their teaching. The ordinary teacher knows nothing whatever about them. He is simply put before a number of boys and expected to teach them. What can he do? Get the ordinary school-books and set lessons. Hence has arisen the market for the 152,000 copies of M. A. Allison. But though we move slowly we do move. Mr. Lowe as we have seen thought that it would be absurd if not mischievous to attempt any connexion between the brain and the members of the teaching profession. The present Government has advanced so far as to admit that such a connexion would be desirable and even to promise to experimentalize with a grant of £400 a year. After such a tremendous stride as this we cannot wonder that the energy of the Government was exhausted and that it was too weak to take the next step and keep its own promise. But in another century or two, or even earlier at the pace we are now going, £400 a year from some source or other may be forthcoming; and meantime the brain is endeavouring to communicate with the rest of the body though the stomach has no supplies wherewith to nourish it.

Now that I have been lecturing you on the impossibility of using private judgment in teaching, you will think me somewhat audacious when I proceed to recommend the use not of your private judgment but of mine. I admit that it does seem somewhat presumptuous, but I may take it for granted that you would not have come to-night if you had not expected to learn what my private judgment was, and I by no means wish you to adopt what I suggest until it squares with your own private judgment also.

In Geography as I said the main thing is to establish *centres of interest*, and it does not seem to me to matter much where these centres are. We must be careful not to argue deductively as Pestalozzi did about the human body. That with which we are most intimately connected interests us most, said he; and this seems a reasonable premise; but he went on, We are most intimately connected with our own bodies, therefore our own bodies interest us most. And from this syllogism he invented the practice of teaching children the names of all their bones. Perhaps a similar notion has led to our always teaching English counties and county towns in our first geography lessons. But children do not take more interest

in Hazrich than in Honolulu, indeed not so much interest if you can show them pictures of the inhabitants. I cannot quite agree with Mr. Vesian that physical geography should come first. I should prefer *personal* geography if I may coin an expression, geography, that is, which is connected with some distinguished person. I want to use some of the most striking incidents of travel written in a picturesque and simple manner for children, and I should begin geography with these. The love of the marvellous and the love of adventure are to be found in the minds of all children; and by appealing to this we can soon establish centres of interest. I should like the name Australia to bring to their minds that mournful but grand story of the Burke and Wills' expedition; and I would rather they should know how bravely Wills waited for death, making half tender, half playful entries in his diary as long as he could write—I would rather they knew and admired such heroism as this, than that they should be able to run off all the divisions of Australia with the rivers and chief towns. Yes, you say, but we are talking of geography. Yes, I answer, and a child who has once got interested in the Burke and Wills' expedition has made a settlement in Australia which merely for the sake of geographical knowledge will in the end be far more valuable than all the lists in the Student's Geography itself. When the child once has some ideas connected with the name, every chance conversation may give accession of knowledge. A visit to the Zoological Gardens shows what sort of things the Australian kangaroos are, and association renders both ideas more permanent. Then the child sees some one who has been in Australia or is going there, and this gives fresh life to previous knowledge. Once awaken interest and you have set light to the fire—it will burn up without further stoking. Similarly, I should like any mention of the islands in the Pacific to remind the children of Bishop Patteson; Borneo might be connected with Rajah Brooke; places in India might be pointed out where the Victoria Cross was won during the Mutiny, and these heroic deeds might always be associated in their minds with our Indian empire.

From the very first children will like to see maps if the right kind of maps are provided for them. But just as in children's books we do not want a small book to contain a great deal, but we want a large book to contain a little, so in maps. They should be as large as possible, and should contain almost as little as possible. Atlases for the hand are too small, and there is always some trouble in putting up and taking down wall-maps; so I want to see maps published in rolls round a stick similar to the picture-rolls of Messrs. Partridge. It has been said that the mind should be treated like a chromo-lithographic, and a separate stamping given for each colour, that is, that there should be several maps of the same country, one map giving its physical features, another its great political divisions, another its chief towns, and so on. And this is quite my own notion. Large and perfectly simple maps should be prepared to illustrate the book of

adventures I have mentioned; and there should also be bold pictures of the natives, and of animals, trees, etc., connected with the main centres of interest. I am afraid that here again I shall seem a schoolmaster; but there is already one very good book through which some thousands of children (though, I fear, nothing like the 200,000 little disciples of M. A. Allison) have received their first notions of geography. I mean Miss Hack's "Winter Evenings or Tales of Travellers." This is an excellent book in every way except in choice of language. In this respect Miss Hack has not been nearly so successful as Miss Yonge has been in the "Stories of History for the Little Ones."

Mr. Grant Duff in a recent magazine article on *a Liberal Education**—an article with many good things in it, though sadly disfigured by the old error of taking education as an imparting of knowledge—has proposed this as the main subject in his curriculum, a knowledge of the earth we inhabit. And, among our various knowledges, there is no other that is so capable of daily extension all our lives when once our interest is excited, there is no other which so readily connects itself with almost everything we read and talk about. Do not think I despise a knowledge of geography or that I object to the works of M. A. Allison, Robert Anderson, and the Rev. Dr. Butler because they give too much of this knowledge. Not at all; I value this knowledge very highly, and I object to these authors because, instead of teaching geography, they scare children away from it. The first thing to secure is interest, the second thing is interest, the third thing is interest; and there is nothing in which interest may more easily be excited and kept up than in geography.

The generalizations of physical geography belong, as I believe, to an advanced stage of the study, but the physical features of particular countries may be early comprehended by means of really good maps. Mr. Fearnthorpe's Physical Atlas† is excellent, but we want the same and similar maps on a larger scale.

There are in my opinion three principal reasons why instruction in geography is so unsuccessful. First and foremost the teachers know, and still worse care, very little about it themselves. Secondly there are numberless bad books on the subject and very few good ones. Thirdly in this subject apparatus such as maps and pictures are of great importance, and for fear of expense and trouble this apparatus is seldom sought for.

Two or three weeks ago I let a London street boy carry a parcel for me, and I promptly availed myself of the opportunity to ask about his schooling. He had been at school he said, and had passed in the fifth standard. "What was the best thing you learnt at school?" I asked. His answer rather surprised me. "Oh geography was the best thing," said he; "I liked drawing the maps." This brought

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* In the *Fortnightly Review* for August, 1877.

† *Elementary Physical Atlas*, by Rev. J. P. Fearnthorpe. (Stanford.)

home to me very forcibly the importance of finding employment for the hands as well as for the eyes and brain. But map-drawing, as we generally conduct it, is too difficult for children, and very often teachers use it as a kind of exercise that can be marked rapidly. It then ceases to be anything but a display of neatness or the want of it. If the boys are asked about the most important places on their own maps, they will not know the position of them, and in large forms I have known boys save themselves trouble by introducing the names of their acquaintances as towns, instead of the names furnished by the map-makers. Where the boys' maps are so carelessly marked that improvements of this description pass unobserved, very little geography is learnt from the map-drawing. But suppose a master takes a coast-line, say the south coast of England, or a river, say the Rhine or the Danube, and lets his pupils draw it again and again till they can do it with fair accuracy from memory, he has given them a good notion of the lie of the coast-line or river. I think the attempts should be made on prepared paper giving many lines of longitude and latitude, which would prevent any great error; and at first the exact position of some important places might be indicated by points. The teacher might help by drawing attention to the chief features of the subject. *E.g.*, suppose the Rhine has to be drawn, an examination of the map will show that there are several natural divisions of it, the first from its sources to the Lake of Constance; the second from Constance to Basel; the third from Basel to Mainz; then, after a short but complete bend, it flows in a new direction from Bingen-loch to Cologne, and so forth. The direction and comparative length of the different divisions must be noted, and the relative position of important points. Thus it will be observed that Bingen is nearly due north of Basel, and that the course of the river from Bingen may be determined by drawing a straight line from the east end of the Lake of Constance through Bingen. After making such observations as these, the pupil will soon be able to take a piece of paper and draw the course of the Rhine with tolerable accuracy, a much more satisfactory geographical feat than that of giving the names of the German Duchies with their capital towns. I once met with a book called "the life of the Mosel," a book intended not for the school-room but for the drawing-room; but it seemed to me that such a book, about two or three of the main rivers of Europe, would be an admirable book for the young. In studying rivers we want a map of the course of each separate river. A roll of river-maps would be a great help in the school-room, and such books as the *Cruise of the Water-Lily* and Mr. MacGregor's voyages in the Rob Roy canoe, would make the study of these rivers very entertaining.

The maps in the school-room for the younger children should be wall-maps or map-rolls only. Atlases to be good for anything must be too costly for children's very trying use. But even an atlas should always be at hand, and we have at least one good school atlas for

political geography, that of the Rev. Geo. Butler, of Liverpool. When the pupils have practised the wall-maps and map-rolls are much better without any names of places. A good way of examining a class is to ask questions about the map and to let every one write the answer to each question in column on paper, using either pen and ink or blackhead pencil. Unless there is much more than the usual space in the school-room A and B questions must be asked, so as to avoid copying. The temptation to copy when a glance will be sufficient is to most children irresistible. The teacher should give the number of each question, and should at the same time write the correct answer with its number on his own paper. The questioning being over, the pupils are furnished with coloured-chalk pencils, the master reads out the right answer and the pupils mark an R or a note of interrogative against answers which are right or doubtful. The papers are then given up, and the master can easily look through them and award marks. I much prefer the plan of making the pupils mark their own answers, as they want to know at once whether they have been successful or not, and while the mind is interested in the matter it can receive lasting impressions about it. If the pupils are dismissed and do not know the right answers till another time, a good opportunity of impressing what is right and correcting what is wrong is thrown away. The same is true in dictation and other lessons.

My recommendations to teachers of geography may be summarised very briefly as follows:—

1st. Get interested in the subject yourself.

2nd. Get your pupils interested in it.

3rd. Have and use good apparatus.

One night in London as I was walking by myself, two little boys hurrying from their work overtook and passed me. As they went by, I just caught the following words, which were audible from the clearness of the speaker's voice; he was in fact a mere child:—"I always do the best I can for our master," said he, "for he's a good master and patient. If ever I can't do anything"—here the voice passed out of hearing. I have often thought of these few words. How little that master knew that the child gave him credit for his patience and was grateful to him for it! And so it is with most of us. We do not realise how much we are to the young, and how keen are these feelings about us. We make ourselves the measure of all things, and this entirely prevents our understanding children. We have much that children have not. As I have endeavoured to explain, we have numberless trains of ideas which give us considerable power of rapid thought and also very varied intellectual powers. Our intellectual powers then are immensely in advance of that of young people. But our power of feeling and our power of imagining is not so great as theirs, or rather I should say perhaps that our imagination is far less vivid, and the play of feeling is so far less easily aroused. We think of the happiness

of childhood, and thank God it is in the main happy, and a child without happiness is, as Jean Paul says,* like a butterfly without wings. But there is a shadow-side to this, and the sorrows of childhood are very real too. The strength of the child's imagination becomes a source at one time of intense delight, at another of anguish no less keen. And as Michelet has pointed out,† the child is much more absorbed in its present pleasure or pain than we are. We have learnt by experience that neither joys nor sorrows are lasting, and we console ourselves in all trouble except the very greatest by reflecting that things will seem different to us a few weeks, perhaps even a few hours, hence. But the child does not know this, and if he is wretched he has no hope of escaping from his misery. Thus there is an intensity in the joys and sorrows of childhood which we little understand.

In concluding, I fear the various hints I promised you must condense themselves into a very few words. Remember the nature of your task. You have to lovingly superintend the development of your children's faculties. You must then forget yourselves and make everything centre in your study of children. Try to enter into their minds, try to understand their likes and dislikes, try to see things from their point of view. I have said that the science of education is the science of human nature in its early stages; and in this science everyone who will carefully observe young people may make his own discoveries. Let me strongly advise you to take notes of your observation. That looking-before-and-after faculty which is said to be peculiar to man should be exercised by the schoolmaster. The work of the school-room should be carefully planned and prepared beforehand, and the master should keep a private note-book in which the success or failure of the lessons is carefully recorded, and also an account of every experiment he attempts and the result of it. And remembering that education is much more than instruction, he will consider all the influences which act upon his pupils. One influence especially he will always take into account, the influence of books which children read for themselves—play-books as they used to be called. As books are generally considered the plough of the scholastic husbandman, it is astonishing that the effect of reading play-books has so often been entirely left unobserved. At last, however, we are beginning to see that Defoe and Marryat and "Tom Brown" are far more influential writers than Miss Mangnall, M. A. Allison, and the Rev. Dr. Brewer. Only last night Goldwin Smith at Saltaire pointed out that the effect of fiction on the young was far greater than that of precept, and that though the teaching of *Sandford and Merton* was not very high, the influence of the book was great. We must admit that the outcome of literary instruction is not altogether satis-

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* In Levana, the English translation of which has lately been republished by Messrs. Bell.

† *Nos Fils*, pp. 88, 89.

factory if it leads the pupils to dread books; and yet I fear this is the result too often arrived at where there are no play-books, as is the case in many of our elementary schools. I therefore hail with delight the following announcement in a leading article of yesterday's *Times*, an announcement so important that, short as the time at my disposal is, I cannot help reading it to you. In telling about Sir Chas. Reed's account of the work of the London School Board, the writer says:—

"Of the minor points of which Sir Chas. Reed speaks there is none of which we approve more heartily than the addition which he tells us is being made of a good library to all permanent school buildings. By this more than by anything else is it likely that the taste for reading will be formed and rendered permanent. The boy who has brought that taste away from school is the possessor of a life-long treasure which it will rest with himself to improve and turn to account. He may and will drop and forget much which he has learnt at school, but he will still retain the means of keeping up what he may find of value, and he will choose for himself by-and-by perhaps more wisely than his early instructors [who have introduced him to such works as that of M. A. Allison] have been able to choose for him." (*Times*,* Sept. 27th, 1877.)

One of the very few good things I have ever managed to do was the starting of a school library some years ago in the Elementary Schools at Harrow, and I please myself with the thought that in this way I have been the means of bringing both amusement and good instruction into many a poor family, and we found that our books were read no less by the parents than the children. I should be very glad to think that my visit to Leeds had resulted in the starting of some school libraries, especially in elementary schools. It is a great mistake to suppose much money is needed to *start* a library. It may be started by a book at a time and the privilege of taking home the book may descend in an order fixed by the master, either an order of merit or of age as may seem best. But one thing is needed which is often harder to get than money, and that is *care*. In the first place the books must be well chosen, they must be *good fair* play-books such as children will delight in, not school-books

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* I am informed by one of H. M. Inspectors that the *Times* has misunderstood Sir Chas. Reed's announcement, that the libraries will merely contain "works of reference" for the teachers, and that it would be illegal to provide a single play-book out of the rates. I hear this with very great regret. The most important thing in literary instruction must be to give the pupils the power and the habit of using books for themselves. If this habit is not acquired, not only will the outlines of History and Geography be lost when the schooldays are over, but even the faculty of reading and writing easily will in many cases go too. Play-books would do more to educate the children of the poor than the very best of school books. It would be far better to read about Robinson Crusoe and Gulliver than to learn the names of the Kings of England or of the chief towns in Europe. If the law does not allow real books to be paid for out of the rates, school lending-libraries should be started by voluntary subscription.

in disguise. Next they must be strongly bound, and the librarian must examine every book when it comes in, and not let it go out again if the leaves seem likely to get loose, and thirdly, the managers of the library must remember that the first expense, whether small or great, is not the total expense, but that books in young hands will wear out, and must be frequently renewed.

I had intended saying a few words to you not only on the "Scholars' Library," as the Germans call it, but also on the "School Library" in their sense, *i.e.*, the library for teachers. These exist in German schools both secondary and elementary, but are rarely found in this country. To my present audience I will not say what I am often tempted to say, that English teachers do not show interest in the study of their profession; but certain it is that the literature of teaching in this country is far behind that of Germany, and not of Germany only, but also of France and the United States. The obvious inference would seem to be that the subject is more studied in France and in the United States than it is in England. Still the kind reception you have given me encourages me to hope that English teachers are at length desirous of being learners. What I want to foster in myself and in my hearers is dissatisfaction—that is dissatisfaction with ourselves. We may think, perhaps with good reason, that as things go our work is very fairly done. Yes, but if we strove with all our might to improve it would it not become a great deal better? I think it would if we were always endeavouring to get at the true theory of our task, and would adopt at any cost what seemed the best means of carrying it out.

In these short lectures I have been compelled to dogmatize and lay down the law to many whose knowledge of education is superior to my own. My object, however, has not been to force any notions of mine upon you. I shall have only partially succeeded if you are induced to try my suggestions; I shall have entirely succeeded if anything I have said leads you to reflect on your own teaching, to make a study of it, and to think out both theory and practice for yourselves.

GOVERNMENT CENTRAL BOOK DEPOT.

List of New Books received into the Government Central Book Depôt, Bombay, from 16th June to 31st July 1879.

Fresh supply of English Books received from England.

	Rs.	a.	p.
British Pharmacopœia of 1874	3	0	0
Stormonth's English Dictionary	3	12	0
Peile's Philology. Edited by Green. (Literature Primers)	0	8	0
Nichol's English Composition. Edited by Green (Do.)	0	8	0
Lauries' Copy Book, Nos. V., VII. and IX., each at	0	1	4

New Editions published.

ANGLO-MARATHI.	Rs.	a.	p.
Tarkhadkar's Anglo-Marathi Translation Series, Book I, Part I, 2nd Edition	0	4	0
Do. do. Book I, Part II, 2nd Edition	0	5	0

New Books published.

MARATHI.

Marathé (K.B.)—Rasayan Shastra—being a Translation of Roscoe's Chemistry (No. II. of Science, Primer Series)	0	12	0

ANGLO-GUJARATI.

Wells' (T. L.) Anglo-Gujarati Translation Series, Part V.	0	12	0

Government Publications for sale.

Rules for the Examination of the Native Subordinate Magistrates	0	6	3

LIST OF NEW BOOKS RECEIVED INTO THE GOVERNMENT CENTRAL BOOK DEPÔT, BOMBAY, FROM 1ST TO 15TH AUGUST 1879.

New Works published by the Department.

MARATHI.

Maráthé (K. B.) Jivanendriya Shástra being a translation of Foster's Physiology (Science Primer Series, No. III).	0	12	0

DEPARTMENTAL NOTICES.

Purchase of French paper locally for Vernacular Establishments.

NOTIFICATION.

The subjoined Government Resolution No. 2584, dated 29th July 1879, is published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
13th August 1879.

Stationery. No. 2584.

FINANCIAL DEPARTMENT.

Bombay Castle, 29th July 1879.

Letter from the Accountant General No. T.A.C. 5368, dated 11th July 1879—Enquiring, in reference to Government Resolution, No. 1674, dated 15th May 1879, Financial Department, prohibiting the purchase in India of European Stationery, and Govern-

ment Resolution, Financial Department No. 867, dated 22nd February 1876, whether this rule should be held applicable to French paper, &c., hitherto purchased locally for the use of Vernacular Establishments; stating that in Bengal it is usual to purchase locally paper made in the country for such purposes; observing that the order of the Government of India referred to to in the Resolution first above quoted, was evidently issued with the view of reducing the expenditure in England on account of European stores supplied to this country; and he does not think that the purchase locally of French paper &c., for vernacular establishments will be in any way opposed to the object of the Resolution; and adding that, if Government approve, the present practice in respect to stationery for Vernacular Establishments may be sanctioned.

Memorandum from the Superintendent of Stationery, No. 1057, dated 22nd July 1879,—Recommending that the present practice in respect to the supply of stationery for the Vernacular Establishments from the local market be continued.

Resolution.—The present practice should be continued.

J. B. Peile,
Acting Chief Secretary to Government.

To the Accountant General, the Superintendent of Stationery, all Departments of the Secretariat, all Heads of Offices under the Revenue, Financial, and General Departments.

Report on Jute and Malachra Fibres.

Introduction.

Before studying the modes of cultivating these plants, it would, perhaps, be interesting to know something about their history in the Western Presidency.

At the beginning of 1875, Dr. Wellington Gray, the then Secretary and Curator of the Victoria and Albert Museum, submitted to Government three specimens of fibre. In his report No. 11, dated 23rd January 1875, submitting them, he stated that he believed that experiments with Bengal jute were tried at Poona six or seven years ago, and were pronounced a failure. From the specimen he submitted he hoped to show conclusively to Government that the indigenous jute plant of Western India could be, not only successfully cultivated for fibre in Bombay and in the Konkan, but that it would also compare favourably with the produce of the plant cultivated in Bengal. Dr. Gray had obtained his specimen No. 1 from some plants which, sown for pot herbs, had been neglected and allowed to grow to their full height. The second specimen he submitted was that of Bengal jute, in order to enable Government to compare it, side by side, with the indigenous product. From

what he observed in his report, there appeared to be no doubt that the Bengal jute could be grown here with success. There did not seem to be the smallest difference between the two plants. He was of opinion that there was no reason why the numerous spinning mills of Bombay should not in time obtain their bale cloth from jute grown and manufactured on the spot, instead of depending on Calcutta for their supply. In that report Dr. Gray promised to confirm his anticipations by conclusive experiments made with the indigenous and also with the Bengal seed.

The *third* specimen submitted with the said report was obtained from an annual plant of the natural order *Malvaceæ*—*Malachra capitata*. About this plant Dr. Gray said as follows:—

"It is originally a native of Brazil but now grows abundantly in waste places in Bombay during the rains. It attains a height of from five to six feet, but by a little care in its cultivation it can easily be made to grow to a much greater height, and the quality of its fibre would at the same time be improved."

He further added that—

"It is a fibre possessing valuable qualities for the manufacture of textile fabrics, and one which fully merits further development."

Those specimens were sent by Government to the Bombay Chamber of Commerce, who reported that the "specimen marked No. 1[a] resembles the jute produced in Guzerát, where it is used for the manufacture of common twine and gunny cloth, which are sometimes sent for sale to Bombay."

[a] The Bombay jute.

In reference to No. 3, or the *Malachra* fibre, the Committee stated that "*it is the best specimen of the three, and by improvements in its growth and preparation might, no doubt, be made suitable for textile fabrics.*"

The Chamber recommended that the cultivation of jute in every possible way be encouraged, as there seems little doubt that the soil of this Presidency is suitable for it.

On receipt of the Chamber's report, Government were pleased to request Dr. Gray to procure larger samples for being forwarded to London, as well as to put himself in communication with the Superintendents of Model Farms, and to explain to them the plants from which the fibre was derived, with a view to experiments being made with its cultivation. In their Resolution No. 761, dated 12th March 1876, Government were pleased to say that they would be glad to hear of the results of any experiments Dr. Gray himself may be able to undertake. Government further observed that "*if it be found that jute can be cultivated at a profit in this Presidency, the discovery will be an important one.*"

During the monsoon of 1875 Dr. Gray cultivated jute at the Victoria Gardens on a spot near the mosque. As he could not procure the seed from Calcutta till the middle of July, the crop did not grow to its full height. The plot of land hired from the Municipality

was also inferior. His fibre, therefore, was not very strong. With earlier sowing in better land, and aided by the experience he had gained, he entertained sanguine hopes of similar success in the subsequent year, and his anticipations were fully realized.

The fibre produced in 1875 was sent by the Bombay Chamber of Commerce to Messrs. Finlay, Muir & Co., who forwarded it to Mr. D. Easton, their "jute selector at Calcutta for Home markets," for examination, and the following are extracts from his report, dated 25th January 1876:—

"*Sample A.*—A good coloured, fine fibre jute, strong, apparently very carefully prepared and steeped, being very clean, and free from speck and root. To-day's value is Rs. 3-12 per bazar maund of 82½ lbs."

"*Sample B.*—A *strong, useful* jute, but very grey in colour, which is objectionable, not so cleanly prepared as A, and has some hard root, which is also very objectionable. To-day's value about Rs. 3-8 per bazar maund of 82½ lbs."

"* *Samples A* and *B* appear to have been forced, and are under-grown, evidently from want of sufficient moisture; otherwise the jute is *very good* and of a *free working quality*. One advantage the samples have, is that of being free from hard speck and clear roots, so that there would be little or no waste in spinning. The jute has evidently been grown from seed procured from the Eastern Districts."

* Remarks common to both the samples.

The reason why Dr. Gray's specimens were undergrown from want of moisture was, as already explained, their having been cultivated in the middle of July, when the season had much advanced.

Government were pleased to publish all the correspondence on this subject with their memo. No. 1036, dated 28th March 1876. The Collector of Surat was supplied with 50 lbs. of jute seed through Dr. Gray, who was also requested himself to experiment on the Bengal seed in continuation of his efforts in 1875 (*vide* Government Resolution Nos. 337 and 1980, dated, respectively, the 27th of January and 30th of June 1876).

A better fibre was prepared during the season of 1876, and sent to the Bombay Hemp and Jute Mill for report. Amongst the samples sent, one was of a white† colour and the other of a reddish‡ colour, about which the Manager of the Mill reported that both were clean in appearance, that the height of the plants appeared somewhat near to those of the second and third classes of Calcutta jute. They seemed likely of Calcutta seed. They all passed through the process of yarning. In the state in which they then were they would have suited for 'weft;' by improvement, which was quite possible, they would become suitable for "warping" yarn. And that the probable value of the samples ranged from Rs. 3-8 to Rs. 3-12 per maund of 82½ lbs.

† The product of *Corchorus capsularis*.

‡ Do. do. of *C. olitorius*.

The Manager of the Mill forwarded 16 samples to illustrate all the stages (8 in number) each of the two specimens underwent. They are deposited at the Victoria and Albert Museum, and form a very interesting collection.

So much for the experiments made in Bombay. The 50 lbs. of seed sent to the Collector of Surat were sown, and the Revenue Commissioner, N.D., reported to Government that "the experiment is so far satisfactory, for it proves that,—notwithstanding all disadvantages in the seed not having been planted in season and the soil inferior or unsuited,—jute of a middling quality was produced."

On receipt of these "satisfactory" reports, Government, in order to encourage this useful industry, were pleased to say in their Resolution No. 3817, dated 20th June 1877, that they "*will have no objection to remit the revenue on lands when the jute sown does not produce a paying crop.*"

I have no means of ascertaining what further steps, if any, have been taken by the district officers towards encouragement to the cultivation of this useful plant.

When the *Malachra* fibre was sent to the Bombay Hemp and Jute Mill for opinion on its qualities, the Manager wrote to the following effect :—

"I have received, through your pupil Mr. H. A. Gupte, a sample of a nicely-cleaned, new fibre taken from a jungle plant, and it being new it gave me extra pleasure in testing it; and I can safely say that the new fibre is quite as good as jute. If this new fibre can be grown in quantity it will be a great thing and a boon to this Presidency. The fibre is actually not the yarn of jute, nor do I know its true name. It seems like what the natives call Rano* Bhendee or Jungle Bhendee; but even that is doubtful, as Bhendee is scarcely so good as this fibre."

* Rán Bhendee is the wild variety of the Tarai or *Hibiscus esculentus*. It is, therefore, not this fibre.

"The fibre is in length from eight to nine feet, thoroughly clear from gummy substance and dirt, has a nice silvery appearance with a peculiar lustre, and is almost as soft as silk. In passing the fibre through the machinery damped with oil and water, as is commonly done with Bengal and Konkan jutes, yarn was produced strong enough and nearly equal to that made from the second quality of Bengal jute. In the opinion of our European spinning master, owing to the almost imperceptible difference between the yarn made from the new substance and Bengal jute, it is very suitable for weft; but if the plant is carefully grown and well looked after, the fibre would then, no doubt, rank fully equal to Bengal and Bombay jute. Owing to the high prices ruling for jute in Bengal and elsewhere, the new fibre, if carefully prepared, would command a ready sale at Rs. 5-12 to Rs. 4 per Indian maund."

The Manager of the Mill, Mr. Hirjibhoy Jehangir Readymoney,

has since been taking a lively interest in the cultivation of the plant and in the preparation of the fibre. In 1877 he removed many full-grown plants from the Byculla Flats, and extracted some fibre therefrom. He mixed it up with jute, and manufactured it into gunny bags. He entertains sanguine hopes, from the experience he has gained, of seeing this fibre much improved by cultivation, and agrees with the Bombay Chamber of Commerce in believing that it can, by cultivation, be made suitable for textile fabrics. Its natural fine lustre will, no doubt, command a ready sale in the London market, where cleanliness, strength and good appearance are deservedly appreciated.

The *Malachra capitata* remained rather in the shade till J. E. O'Conor, Esq., Assistant Secretary to the Government of India in the Department of Revenue, Agriculture and Commerce, was pleased to bring it conspicuously to the notice of the Government of India. His attention was directed to the subject by the remarks made by F. F. Arbuthnot, Esq., on the specimen of this fibre sent to England for the last Paris Exhibition.

The Governments of Bombay and India have since been taking steps to encourage the cultivation of the plant and the manufacture of the fibre.

In his note, dated 15th April 1878, J. E. O'Conor, Esq., states about this plant as follows:—

"The utilization of this plant would be specially advantageous to the Bombay Presidency, where attempts made to grow jute can hardly be said to have had any success.† But the plant seems to merit attention in Bengal, too, growing as it does and flourishing without any attention in marshy soil, of which we have more than enough for all purposes in Lower Bengal. It would seem to offer the spinners and paper-makers an excellent substitute for and addition to jute. I believe the Bally Paper Mills Company are anxious to find out some fibrous product capable of conversion into paper at low cost. Here is one to their hand, and I beg to recommend it to their attention, as well as to that of jute spinners and rope and twine-makers."

† He was, it seems, not aware of the experiments made on jute cultivation by Dr. W. Gray.

The Secretary and Curator, Victoria and Albert Museum, the Collector of Thána, Dr. Gray, and Officers in charge of experimental farms and public gardens, have been requested by Government to try experiments with this plant and to communicate to Government the results of their experiments (*vide* Government Resolution in the Revenue Department—*Agricultural Improvements*—No. 2362, dated 8th May 1878).

The fibre, which Dr. Gray prepared in accordance with this Resolution, has already been forwarded to J. E. O'Conor, Esq., who has been kind enough to place it before the Agricultural and Horticultural Society of India. The committee have examined the sample,

and I beg to quote the following opinions recorded by qualified gentlemen on the quality of the fibre.

Mr. S. H. Robinson states:—

"I have no doubt this fibre would prove a good substitute for jute for most purposes to which jute is applied; but it seems rather more harsh, and its spinning qualities should be tested in one or two jute mills before giving a very decisive opinion. To ascertain whether it would prove economically a substitute for jute, we should require to know the yield of fibre per bigha or acre and the cost of cultivation and manufacture."

Mr. W. H. Cogswell writes:—

"This sample is *beautifully bright and clean*, fair length, and *good strength* of staple, but somewhat harsh. I do not know if it would make a good warp yarn in itself, but mixed with good jute it would do so. The fibre for spinning is not so valuable as jute; it lacks the forked ends, when broken, such as the latter possesses, and 'Meshta,' which when broken looks as though it had been cut and left with square ends. Before its value as a spinning fibre could be fairly assessed in competition with jute, it would be needful to *show cost of production*, outturn per bigha, &c. &c."

Government have further requested Dr. Gray to collect a larger quantity of the seed for transmission to the Panjab, and, perhaps, for distribution amongst the district officers of this presidency.

Appeal to the Agriculturists of Western India.

From what I have submitted above it will be seen that the jute plant is found wild in some places in our Presidency, that this soil suits it as well as the *Malachra* plant quite well, that jute and *Malachra* can be grown here in abundance, if we but choose to take the trouble of cultivating the plants and of preparing the fibre. In Mr. Hirjibhoy Jehangir Readymoney, the Manager of the Bombay Hemp and Jute Mill, there is the representative of a firm in Bombay ever willing to buy large quantities of both the fibres for being manufactured into gunny bags in their mill. European officers, who have been taking pains to improve the agriculture of this land, have placed before us the discovery that these plants can be successfully cultivated here, and have also explained to us the mode of extracting fibres from the plants they recommend. After imparting to us such valuable information, it is but natural that they should expect us to try, practically, the conclusions they have arrived at, and thus confirm their anticipations of Bombay indigenous jute-producing bale cloth for the use of the numerous mills in this city, and thereby outbid the Bengal product, on which our mill-owners and others have at present to depend for its supply. Complete apathy towards this useful industry will most certainly merit censure from all civilized nations. We may, then, be safely compared to the two sluggards who starved themselves to death under a fruit-tree with its branches bent under the weight of the

ripe fruits they had on, because they tried to excel each other in their idle habits.

Under these circumstances I would most strongly advise the agriculturists, or rather the proprietors of landed property, to spare no pains in showing as much energy as is manifested by other nations on similar occasions—nations who have not only left no stone unturned in their own land, but have made wonderful discoveries in connection with foreign products, either mineral, vegetable, or animal, and have, consequently, been most deservedly enjoying the fruits of their labour.

The modes of cultivating these plants and of extracting fibre from them are simple and economical. If there is the wish to make profits by taking due advantage of the knowledge forced upon us by benevolent foreigners, there is the way quite clear and easy.

I entertain sanguine hopes of seeing the fibres sent to Bombay in large quantities from all quarters of the Presidency.

The Modes of Cultivating the Plants and of Extracting Fibres from them.

They are equally applicable to both the plants.

In a shaded and low piece of ground, beds or ridges of clay should be raised almost six inches above the surface of the ground, and some stable stuff, or farm-yard manure, or sheep-fold manure, or any other decomposed animal refuse should be spread over them and mixed with the clay. Each bed may be kept from 2 to 3 feet in breadth, with interspaces not less than a spanful in width. Soon after the first showers of the rains, in the beginning of June, the seed should be thrown, and lightly mixed with the soil by the hand. When the young crop grows about half a foot in height, it should be thinned by removing, for transplantation, all those plants that may be lying too close to each other. It is advisable to have a space of about 4 inches ('8 fingers') between the stems of the adjoining plants, because, when they are allowed to grow too close, the strength of the fibre is interfered with. The only thing that is required to be done with the plants during the monsoons is that of dressing them lightly with some good manure if they are stunted in growth. When the lower fruits are fully formed, let the crop be cut, (leaving some portion for the seed,) at the roots, and tied into small bundles, each about six inches in diameter. These bundles should then be steeped in water for about eight days. In the meantime the farmer should occasionally visit the spot to examine these stems, in order to ascertain whether the fibre can easily be separated from the stem, and whether the bark is sufficiently rotten to lose its hold on it. At this stage all the bundles should be taken out, one by one, and the fibre separated in the usual way in which "Taag" and "Ambadi" are separated. It is easily done by breaking the stem at a short distance from the lower end, and then pulling both the pieces out with the right hand, while the

left hand holds the fibre firmly in its grasp. It is most advisable to wash it *immediately* in water, as it is found rather difficult to get rid of the bark and other gummy substances attached—to the jute in particular—when it is once allowed to dry in its original dirty state. It is also thought advisable to keep the fibre floating on water till the day's work is done, as exposure to moisture and to the sun in that state bleaches it the quicker. This is readily done by fixing in the pool four sticks in the form of rectangle, the length of the rectangle being a little shorter than the fibre, and its breadth about one yard. Just at the level of the water, strings should be tied across the end-sticks, and the fibre thrown across them as soon as it is extracted and washed. The number of rectangles to be thus formed will depend on the quantity of fibre requiring accommodation. It then remains to dry the fibre and to tie it up into small bundles, each about six inches in circumference. It may then be packed up in bigger bundles or head-loads.

The importance of cleanliness all along the preparation of the fibre and the necessity of a careful supervision over the coolies for enforcing it, cannot be too strongly urged, as the cleaner the stuff the more readily does it command sale and the more the price it fetches.

B. A. GUPTE.

Bombay, May 1879.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
22nd August 1879.

Books Sanctioned.

NOTIFICATION.

The following Marathi books, which can be obtained from the Curator, are sanctioned for Libraries, and as Prize books:—

पदार्थविज्ञान. (Physics) by Rao Bahadur Keru Laxuman Chatre.

रसायन शास्त्र. (Chemistry—from Macmillan's Science Primer) by Rao Sahib K. B. Marathe.

आरोग्यशास्त्र. (Physiology—from Macmillan's Science Primer) by Rao Sahib K. B. Marathe.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
26th August 1879.

Instructions for drawing up applications for Pension or Gratuity.

NOTIFICATION.

1. In submitting applications through this office for pension or gratuity much delay and inconvenience will be saved if the applicants will carefully attend to the instructions recently issued by the Accountant General in his General letter No. $\frac{T}{2356}$, dated the 9th June last (*See Educational Record* for July, page 168) and will also conform themselves strictly to the following procedure.

2. Applications for *special pension* or *gratuity* should be sent with *four spare copies* as previously instructed, but applications for ordinary pension or gratuity should in future be sent in *triplicate* only with the following papers:—

(*a*) *Service Book.* In this document, birth day according to Christian era should be given, and the exact age of the applicant filled in accordingly in years, months, and days. Every description of leave granted during the whole period of service except casual and privilege leave should be shown on the last page of the service book.

(*b*) *Leave Return* in *triplicate* in the case of applications for ordinary pension or gratuity, but with *four spare copies* when the application is for special pension or gratuity.

(*c*) Statement showing the sources of pay drawn during the whole period of service in *triplicate* or with *four spare copies* according to instruction above in clause (*b*).

(*d*) Accountant General's letter communicating the verification of service, in original, and with a copy of the same.

(*e*) Medical certificate in original with a copy of the same.

(*f*) Testimonials in original with one copy of each.

(*g*) *Application for pension or gratuity.* For this the standard printed forms should be used, and should be sent in *triplicate* or with *four spare copies* as the case may be (*vide* clause (*b*) above). In filling up the application the following particulars should always be attended to.

(1) Page 1 (age)—Exact age in years, months, and days should be filled in.

(2) Page 2—Each entry in this page should tally with the corresponding entry in the service book. If the applicant be paid from Local Funds a certificate at the bottom of the page should be given thus—"Certificate that Pension contribution towards Local Funds has or has not been paid to make the service before 1st April 1870, pensionable."

(3) Page 3. All particulars required to be given in this page should invariably be filled in without exception.

Applications for pension or gratuity drawn up in the manner specified above will save much time and trouble in this office as well as in the offices of the Director of Public Instruction and the Accountant General.

T. B. KIRKHAM,
Acting Educational Inspector, C. D.

Poona, Office of the Educational Inspector, C. D.,
7th August 1879.

Applications for Educational Employment in Central Division.

NOTIFICATION.

Candidates for Educational employment in the Central Division should when applying to the Inspector invariably state (1) Dates of Matriculation and any higher University Examination, (2) "Second Language" and special subjects studied, (3) Full details of experience in teaching, (4) Salary expected, (5) Postal address. Copies of recent testimonials may be appended.

T. B. KIRKHAM,
Acting Educational Inspector, C. D.

Poona, Office of the Educational Inspector, C. D.,
11th August 1879.

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT, FROM THE 16TH JULY TO THE 15TH AUGUST 1879.

17*th July* 1879.—Mr. A. D. Colah, is appointed Agricultural Teacher in the Nariad High School.

17*th July* 1879.—Mr. F. N. Khambata, is appointed Agricultural Teacher in the Karachi High School.

18*th July* 1879.—Mr. Ganesh Jaoordan Agashé, B.A., First Assistant Master Tanna English School, is appointed substantive *pro tem.* Head Master Tanna English School, until further orders.

18*th July* 1879.—Mr. S. R. Bhagwat, Second Assistant Master Tanna English School, is appointed substantive *pro tem.* First Assistant Master in the same School, *vice* Mr. G. J. Agashé, promoted.

18*th July* 1879.—Mr. Balwantrao Ramchandra Salsarakhé, B.A., is appointed Acting First Assistant Master, Poona High School, during the absence of Mr. Sathé, or until further orders.

21*st July* 1879.—Six months' leave, on private affairs, is granted to Mr. Ramchandra V. Oke, Assistant Deputy Educational Inspector, Nagar and Nasik.

22*nd July* 1879.—The appointment of Mr. Gulabbhai G. Naik, substantive *pro tem.* Head Master, Viramgaum English School, is cancelled.

22*nd July* 1879.—Mr. P. D. Athalé, is appointed substantive *pro tem.* Seventh Assistant Master, Dhulia High School.

24*th July* 1879.—One month's leave, without pay, is granted to Mr. Mahadeva S. Kashikar, Seventh Assistant Master, Ratnagiri High School.

26*th July* 1879.—Mr. G. G. Pandit, B.A., is appointed substantive *pro tem.* Third Assistant Master in the Ahmedabad High School.

26*th July* 1879.—Mr. R. S. Master, B.A., is appointed substantive *pro tem.* Fourth Assistant Master in the Ahmedabad High School.

28*th July* 1879.—Mr. B. N. Nabar, B.A., is appointed substantive *pro tem.* Third Assistant Master in the Poona High School, *vice* Mr. Sahasrabudhé.

28*th July* 1879.—Mr. R. B. Atré, F.E.A., is appointed substantive *pro tem.* Sixth Assistant Master in the Poona High School in place of Mr. Nabar.

29*th July* 1879.—Mr. W. K. Bhat, is appointed Acting Twelfth Assistant Master in the Poona High School, *vice* Mr. Atré.

1*st August* 1879.—Mr. B. N. Nabar, B.A., is confirmed as Thirteenth Assistant Master, Poona High School.

2*nd August* 1879.—Three months' additional leave, without pay, is granted to Mr. D. D. Bhat, B.A.

5*th August* 1879.—One year's leave, without pay, is granted to Mr. Chintaman, A. M., Head Master, Anglo-Vernacular School, Sakkar.

6*th August* 1879.—T. G. Natu, B.A., is appointed Acting Assistant Master in Kolhapur High School in place of Mr. Patankar.

6*th August* 1879.—Two months' sick leave is granted to Mr. B. B. Lélé, Eighth Assistant Master, Ratnagiri High School.

6*th August* 1879.—Mr. B. B. Londhikar, is appointed Acting Eighth Assistant Master, Ratnagiri High School.

6*th August* 1879.—Six months' sick leave is granted to Mr. D. B. Deshpandé, Third Assistant Master, Dhulia High School.

8*th August* 1879.—Mr. R. V. Subnis, B.A., is appointed Third Assistant Master, Tanna English School, *vice* Mr. Waglé, but to continue to act as Third Assistant Master, Dhulia High School.

12*th August* 1879.—Mr. Hosanji B. Vadia, B.A., is appointed substantive *pro tem.* Second Assistant Master, Rajkote High School.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
15*th August* 1879.

THE

Bombay Educational Record.

No. 10.] OCTOBER 1, 1879. [Vol. XV.

THE MONTH.

Rao Saheb G. M. Pitale, the Assistant University Registrar, has again placed students and examiners alike under obligation by another issue of his reprints of the examination papers set in the examinations of the University in a form specially designed to facilitate reference. This time Mr. Pitale has collected the papers set in each subject during the past 20 years, that is, since the foundation of the University, and has published each subject in a separate fascicle. We have received in this very convenient form the Matriculation papers set from 1859 to 1878 in six distinct pamphlets, viz., English, Euclid, Arithmetic, &c. It is obvious that the examiner about to draw up a fresh paper and the candidate preparing to face the same will be equally benefited by a perusal of the papers already set, and also that fluctuations of standard will be less likely to occur when a retrospective glance over the standards adopted in past years is made so easy.

Fellows of the University who have been hitherto accustomed to receive a copy of the University Calendar annually on its publication in the middle of each year, and who have been waiting for some weeks in expectation of the usual gift, had better know that the Syndicate has resolved to discontinue the distribution. The Calendars are to be had for payment only at Messrs. Thacker's, the publishers to the University, price Rupees two.

It will be seen from an official notice further on that "Vulgar Fractions" have been removed from Vernacular Standard V. and relegated to Vernacular Standard IV. This slight change brings the Vernacular and Anglo-Vernacular Standards into more accurate relation and also conforms the Marathi Standards to those in Gujarati, Canarese, and Sindhi.

The bride elect of His Highness the young Gaikwar of Baroda is said to be a good English scholar and highly accomplished in music. She was educated under an English lady. The marriage is to take place in January next.

We have repeatedly drawn attention to the growing evil of short-sightedness in connection with school arrangements. The Education Department of Lower Austria is also much exercised by the prevalence of this evil in Austrian schools. The question having been referred to a Medical Board, it has reported a series of recommendations to the Department which it would be well to attend to as far as possible here:—1. To watch over school buildings, and to see that their conditions, especially as to sufficiency of light, be such as to strengthen instead of weakening the eye. 2. To enjoin on teachers to watch the postures of their pupils in schools, and not to set them too long exercises out of school. 3. To take steps to keep the handwriting pretty large. 4. To see that young girls are not set to too fine sewing; and that the elder ones do not sew too long. 5. To introduce books well printed on good white paper. 6. To require Committees of Superintendence to watch over the condition of Public as well as Voluntary Schools.

It is not only in India that the question of official ink—vide our departmental notices—has given trouble. A commission lately appointed by the Prussian Government to investigate the best class of inks to be employed for official purposes have just presented their report. They state that aniline inks are not suited for this purpose, because they can be easily washed away, especially by preparations of chlorine. Inks in the composition of which alizari (Adrianople red) is employed can be obliterated less easily. But they are of opinion that the best of all is that made from gallnuts, and recommend that it shall be used for official purposes and for all documents the preservation of which is of importance.

The first brick of the College for Women, to be erected, at a cost of 257,000*l.* (Rs. 25 lacs 70 thousand) by Mr. Thomas Holloway, at Mount Lee, Egham, Surrey, was laid, last week, by Mr. George Martin, brother-in-law of the founder. A large number of persons were present. The building, which is in the French style of the

time of Francis I., is to be of red brick with Portland stone dressings, with four fronts, the extreme length of north and south being 496 feet, two quadrangles in the centre being each 216 feet. These will be divided by a range of buildings, comprising a chapel, dining hall, &c. The time allowed, by the contract, for the completion of the edifice is four years.

A REPORT just issued by the Education Department shows the extent to which singing is systematically taught in elementary schools, and the proportions in which various methods are used. In England and Wales 697 schools use Mr. Hullah's system, 534 use the old notation with the moveable *do*, 44 use more than one system, and 2,297 schools use Mr. Curwen's Tonic Sol-fa system. The remaining 19,921 schools, by far the greater proportion, teach by ear. In Scotland only 10 use Mr. Hullah's system, 105 use the old notation with the moveable *do*, 25 use more than one system, and 1,338 use Tonic Sol-fa. The remaining 1,404, a less proportion than in England, teach by ear.

A PROPOSAL by MM. Leekroy, Paul Bert, and Parent to sell national property for a sum of two hundred millions of francs in order to build schools, has been adopted in a preliminary stage by a committee of the French Chamber of Deputies.

THE Curator of the St. Petersburg scholastic district has issued a circular to the principals of the different schools, regulating the dress and behaviour of their scholars. The latter are enjoined to remove their kepis before the Emperor, any member of the Imperial family, the Minister of Public Instruction, governors general, priests, and other persons in authority. The scholars are further forbidden to use tobacco, or to go to masquerades, clubs, *cafés*, or public gardens. Each is also required to show a ticket establishing his identity when called upon to do so.

EDUCATION OF BOTH HANDS.

WHY should not a child be taught to employ both hands indifferently? Surely it would be hard to assign a peremptory reason for the prevailing custom of training children to right-handedness, instead of making them, as they should be, *ambidextrous*—equally expert with both hands. We have been much pleased with some

remarks on this subject which recently appeared in the *Scientific American*; and our readers will, we doubt not, acknowledge, on reading the following synopsis of the article in question, that the writer of it has made out a very strong case in favour of ambidexterity:—"Why should not a child be taught to write and draw with both hands?" asks the writer. "It would take but little if any more time; and, if it did, it would only keep him busy during moments which he would otherwise devote to idleness or mischief. The acquisition would never be worthless, and it might be of immense convenience to him. He might never have occasion to use his double capacity after the fashion of the popular scientist and teacher (Professor Edward S. Morse), whose two-handed black-board sketches are such a delight to his auditors, and who is said to pursue his microscopic studies with a pen at one side and a pencil at the other, drawing with one hand and writing with the other; nevertheless, his twofold skill would ever be a possible source of satisfaction and advantage to him. He would be free at any moment to rest a hand exhausted by protracted use, without any interruption of his work; he would be less likely to be disabled by trifling hurts; and in case one hand were stiffened by heavy labour, the other might be kept in readiness for delicate manipulations, for writing, drafting, and the like. The right-handed man who can use a hammer or a knife readily with his left hand, or can tie or untie a knot when his right hand is otherwise engaged, will find frequent use for his skill. Indeed, the advantages we miss through the neglect of the left hand are infinite in number, and of incessant recurrence. They are among the taxes we pay to custom. Why not, then, train children to employ both hands equally?"—*Sunday School Chronicle.*

THE DIFFICULTIES OF LEARNING TO WRITE IN JAPAN.

No question has been thought more interesting by historians and philologists than the formation of our alphabet, and its introduction into Europe. Every letter has been made the subject of recondite inquiry, and the whole may be said to underlie and affect all our literature. The greatest students have described the acquisition of our alphabet as a feat almost impossible in an adult in whose mind there had been no foundation for it. Now, the Japanese, like their neighbours on the main land, may be said to have no alphabet. For ages they have been embarrassed with the impossible task of accommodating hieroglyphics—that is, pictures—to the common requirements of language. Every word with them is a picture elaborately and tediously built up with successive touches, sometimes requiring even different brushes. The hindrance to mental growth must be immense where each idea and each object is represented by one complex figure, designed to bring before the eye a whole history and a large construction. As little as possible is left to the suggestive

and imaginative power of the mind itself. Of course, practical rapidity of writing is out of the question; and, great as are the inconveniences sometimes caused by a pen traversing the paper at too rapid a pace, it is plain that, when a man writes much more slowly than he talks, he cannot write as he would talk, and at the natural pace of his mind. Japanese writers, whether they be poets, or philosophers, or politicians must be also calligraphists. Exquisite penmanship we leave in this country to village schoolmasters, card engravers, law stationers, and poor fellows hanging about for the chance of a job at sevenpence or tenpence an hour. In Japan a good author must be literally a good word-painter. He has to handle a brush, not a pen. This is a work of time, and requires a long education. Every schoolboy, we are told, has to learn at least 1,000 different characters, and in the elementary schools of the Government 3,000 have to be taught. A man with pretensions to scholarship must be acquainted with about 10,000, and a very learned man with that number multiplied many times. It requires ten years' hard study to learn Japanese well enough to teach it well. Our own language, unfortunately, affords us some materials for estimating the Japanese difficulty and incumbrance. We have many very long words for which very short ones would be sufficient—long words even for conjunctions. They are nuisances; but the running hand of the European penman dashes them off quickly. Without being at all illegible or giving trouble to the reader, a writer will despatch the longest word in our language in five seconds, though it contain twenty letters, with several loops, large and small dots, heads and tails. The uniform progress of the hand to the right overrules the lesser motions, and reduces them to a subordinate rank. In Japanese the writer has to come to a stand before the terrible letter, devote himself to it, play round and round its roof-tree, and not move on till he has completed the complex construction. Natural quickness and much practice will partially get over the difficulty; but that will be found to limit the class who can write quick enough even for common social or business purposes. Of course it must be conceded to the credit of the hieroglyphic system that it has contributed to make the Japanese quick, and dexterous, and masters of what they know, such as it is. They are by no means the semi-barbarians we took them to be. But it is plain that they must remain for ever very much what they are unless they can be set free from the trammels of word-painting.

The Japanese children of the class that attends the common elementary schools have no difficulty in learning, not merely the alphabet, but the language of our country. They can write and recite passages from English authors as easily as our own school children. As a race they are singularly imitative, and they show it in the fidelity with which the scholars copy even the faults of the teacher. If in every school even a small portion learn our language, they will soon demonstrate its great superiority to their own as

an organ for the acquisition and communication of knowledge. Time is a condition in all examinations, and it will soon be found that, with the English medium, a lad can learn and write very much more than in the Japanese. The greater pliancy of our language will soon show itself in the comparison with the fixed images and ideas inseparable from anything like hieroglyphics. To get rid of one style of writing and teach a whole nation—some thirty millions—to write in another, may seem a very large undertaking; but even in our own country there are probably now twice as many readers and three times as many writers as there were fifty years ago, and every year our country accomplishes the task of teaching near a million children to read who barely knew their A B C the year before. We may not have converted many people in India to our faith; but there is no doubt we have taught hundreds of thousands to read and write our language, and even to make it the chief medium of such thoughts and expressions as rise above the level of vulgar necessity. Every Japanese lad who learns English will find himself brought into free intercourse with a people in whom he cannot but recognise an immense superiority to his own. He will be on the nobler and the winning side. He need not lose his patriotism; but he will find that patriotism no longer requires him to adhere to vicious habits and ridiculous customs, or to believe that Japan is the highest, because really hitherto one of the lowest in the scale of not wholly barbarous nations.—*Times*.

AGRICULTURAL EDUCATION IN FRANCE.

Paris, August 11.

The intimate bearing of science upon agriculture is a fact which has been far longer recognised in France than in England. For the last century and more several schools of agriculture, either supported by the State or by individuals, have been doing good work in this country, although it is only within a recent period that their efforts have been systematized. In 1771 Panclier founded at Annel, near Compiègne, a school of agriculture; and a project, which received the approval of Mirabeau and Talleyrand, was submitted to the National Assembly in 1789 for the institution of a national school of agriculture at which gratuitous instruction should be given. In 1822 the well-known Mathieu de Dombasle started the experimental farm at Roville, near Nancy. One of his pupils, Auguste Bella, founded the Grignon School, which was destined to become a national institution; and soon afterwards another of his pupils founded an experimental farm at Grand Jouan, which has also become a State establishment.

Agricultural education has been much popularized in France of late years, and several councils-general have founded chairs of agriculture in their respective departments; a professor, whose salary is provided for partly by the departmental funds and partly by the

two Ministries of Agriculture and Education, being appointed to lecture upon the subjects of most interest in each particular district. At the end of last year, thirty departments were provided with professorships of agriculture; and the Chambers, during their recent session, passed a measure by which one will be provided for all the other departments within six years from this time. The professors will give lessons at the primary schools, and will lecture to agriculturists and schoolmasters in the different communes, while three years after the new Act has come into force the elementary principles of agriculture will be included among the compulsory subjects of primary education. The rural schoolmasters will be encouraged to acquire, at all events, the rudiments of agricultural knowledge; and as they are in a position peculiarly favourable for fostering a taste for farming among their pupils much good is expected to result from this provision. Something was done towards a like end in 1832, when farming schools were started, and succeeded so well that they were adopted by the State in 1848. The farming school consists of a tract of land upon which lads over sixteen years of age do all the work, receiving in return a certain rate of wages and practical instruction. The principal object of these establishments is to turn out young men who will be able either to farm their own property or to manage land or to act as gardeners and farm-bailiffs. The pupil upon leaving the farm receives a small sum of money and a certificate which exempts him from military service. Since the year 1835 these establishments have turned out more than 6,000 young men, but their principal use is in districts where farming is very backward, and though there were forty-three in 1875 the number has now been reduced to twenty-six, at which 710 apprentices are being educated at a cost to the State for this year of £18,114.

The practical schools of agriculture come between the farming schools and the three national schools; the persons attached to them belonging, for the most part, to the class of agricultural labourers who receive wages, and in addition to them a certain amount of instruction in agriculture. As it was thought desirable to raise the character of these schools and make them available for a class somewhat better off, a law was passed by the National Assembly in 1875 by which a greater development has been given to the theoretical and practical teaching of agriculture. Only three of these schools are open at present, the most important being that of St. Remy, in the Haute-Saône, but three more will be ready for the reception of pupils very shortly. Great attention is paid in these schools to agricultural machinery, the students being made to take to pieces and put together drills, mowing and reaping machines, and the rest, making themselves thoroughly acquainted with their construction.

The three national schools of agriculture are Grignon, Grand Jouan, and Montpellier, at which resident and non-resident pupils go through a course of study lasting two and a half years. Grignon,

which is not far from Versailles, has been a State farm since 1849; and the course of instruction comprises more especially the cultivation of corn and artificial grasses and the questions relating to the breeding of stock. There is a very fine laboratory there, and the pupils all take their turn of management so as to acquire familiarity with the details of farm work. The Grignon establishment comprises about 110 acres of arable land and grass, 80 acres of copse and wood, together with large gardens and a homestead, in which are kept specimens of the various breeds of cattle, sheep, and pigs. The expenses of Grignon for the current year are estimated at £15,000; but the fees paid by students and the sale of farm produce bring in more than £8,500. The school of Grand Jouan, in the Loire-Inférieure, was founded in 1841, and has attached to it more than 250 acres, the arable part being cultivated to provide food for the animals which are kept upon the farm. The cultivation of waste land and grass, the breeding of stock, and fruit-growing are the principal subjects of instruction at Grand Jouan, which, after deducting the money received back cost the State three thousand a year. The Montpellier school was only opened in 1872; and the branches of agriculture which receive the most attention at this southern station are the cultivation of the vine and the silkworm, forestry, and horticulture. Pupils upon leaving these three schools or colleges pass through a pretty severe examination; and those who stand the test satisfactorily receive a "certificate of agricultural education," or even a diploma as agricultural engineer. The most proficient of them are presented with a sum of money enabling them to continue their studies for two years without cost upon some celebrated farm.

Over all these establishments has now been placed the National Agronomical Institute which was created three years ago, or, to speak more correctly, revived after the pattern of one which was opened at Versailles in 1848 but abolished by Imperial decree in 1852. The National Agronomical Institute consists of a college in Paris and of an experimental farm at Vincennes. Its professoriate teach agricultural technology, rural economy and engineering, zoology, chemistry, and agricultural legislation; among the first occupiers of the several chairs being such eminent authorities as Léonce de Lavergne, Hervé Mangon Boussingault, E. Lecouteux, and Victor Lefranc. The course of study extends over two years, after which students who have passed through it receive either a diploma of superior agricultural education or a simple certificate. After the vacation each year the students have to hand in a diary of farming, compiled during the recess; and the number of students, attached and unattached, this year is seventy-seven, the cost to the State being rather less than £10,000. A national school of horticulture was opened at Versailles in 1873, and about fifty-one students attend the courses of lectures and the experiments in cropping, the length of the course being three years and a half.—*Pall Mall Gazette*.

UNIVERSITY DEGREES IN EDUCATION.

We reprinted just a year ago (September, page 135) a petition, presented to the Senate of the University of London by the College of Preceptors, praying for the institution of a Degree in Education. The subject has since then been extensively discussed both in the Senate and in Convocation, and appears to be rapidly ripening for action. The Convocation of Graduates appointed a Committee to consider the subject, and a very able and exhaustive report has been submitted, which contains, amongst a great deal of interesting matter, a complete scheme which, it is considered, would be suitable for the proposed examination. As the scheme may be supposed to sketch the equipment of the ideal educator, we give it below for the benefit of teachers here who can question themselves as to whether they would like to offer themselves for examination under its five heads. The proposal is to admit only candidates who have already taken their Bachelor's degree.

The following is the complete scheme of the proposed examination as set out in the Report :—The Committee recommend :—

That Candidates be required to pass a written examination in the following subjects, and that they be examined *viva voce* in Groups III. and IV. :—

I.—Logic, Mental and Moral Philosophy.

II.—Human Physiology.

These subjects to be treated generally, and not only in their special bearing on education; the object of this suggestion being that the teacher's views may not be narrowed by the boundaries of his own art, but that he may be induced to study subjects bearing on his professional work from a general and not a special stand-point.

Candidates, however, to be exempt from examination in either or both of these subjects who have already passed an examination in them for their B.A. or B.Sc. degree.

III.—Educational Principles and Methods.

Education as distinguished from instruction. Educational axioms. Development of the intellectual faculties—observation, memory, language, imagination, ratiocination, &c. Training of the eye and hand. Formation of habits, moral training.

Simultaneous, collective, and individual teaching, and the methods appropriate to each; *e.g.*, picturing out, use of maps, pictures, and illustrative objects, ellipsis, repetition, exposition, questioning, notes, use of text-books.

Examinations, oral and written.

Methods of teaching :—

I. Elementary subjects, such as :—

Reading, Writing, Arithmetic, History, Geography, Grammar, and the Phenomena of Common Life.

II. One or more of the following subjects:—
(1) A Classical and a Modern Language.
(2) Science, Biological or Physical.
(3) Mathematics.

IV.—School Management.

School buildings, warming, ventilation, lighting, sanitary arrangements. Location of classes. Furniture and apparatus.

Time-tables. Characteristics of a good time-table. Ability to frame one to suit given conditions.

Discipline and government.

Physical exercises, drill, and recreation.

Registers of attendance, progress, &c.

School examinations, and reports.

V.—History and Literature of Education.

History of Education in England; *e.g.*, the Universities; Endowed Grammar Schools; Charity Schools; the Systems of Bell and Lancaster; the Codes of the Education Department; Modern Foundations.

Foreign systems of education.

A general acquaintance with the ideas of some of the most important writers on Education, *e.g.*, Plato, Erasmus, Comenius, Milton, Locke, Pestalozzi, Froebel.

A more extended study of some special book, to be varied from year to year.

TECHNICAL EDUCATION IN EUROPE AND AMERICA.

The following Report on the state of Technical Education in the chief countries of Europe, by the Hon. W. H. Barringer, Superintendent of Public Instruction for the State of New Jersey, U.S., appears in the last number of the "Circulars of Information" issued by the Bureau of Education at Washington. The views of an intelligent American, on the systems of instruction pursued in Europe, compared with those in his own country, may not be without interest to our readers:—

Before going to Europe the past summer, I was honoured with a nomination by Governor McClellan, and an appointment by President Hayes, as United States Commissioner, to the Paris Exposition. I was also favoured by General Eaton, chief of our National Bureau of Education, with letters of introduction to prominent educators and school officers in various countries. I thus enjoyed peculiar advantages in studying school systems abroad.

While historical monuments, church architecture, picture galleries, sculpture, antiquities, museums, natural scenery, the Paris Exposition, &c., all made demands upon my time, I endeavoured to give special attention to European systems and methods of instruction, and

seldom left a city without either visiting some of the schools or ascertaining something of what was being done for the education of the children.

In some respects their schools resemble ours, and in others the contrast is quite striking.

The buildings, as a rule, are not so good as those in this country. Most of them have either been rented or purchased, and awkwardly adapted to the uses of the school. Even in Paris, the schools I visited were held in buildings which had not originally been erected for school purposes.

Not in a single school from London to Naples did I find the school furniture equal to ours. The pupils usually sit on long benches capable of accommodating from four to six. Some of the forms are for two only; in their construction, however, no attention is paid to beauty and but little to comfort. In general, I am justified in saying that the seats and desks for pupil and teachers in the schools of Europe are no better than those which were in use in ours twenty-five years ago. I saw many schools where there were evidences of as free a use of the jack-knife as the Yankee boy was ever guilty of in the days when his natural propensity in this direction was unrestrained. The black-boards I saw were quite inferior, and what seemed most remarkable was that only one, large enough for the teacher's use, was to be seen in each room. Only the teacher makes use of the black-board.

In this respect our mode of teaching, which requires much black-board work by the pupils, is far superior to foreign methods.

The rooms are usually well supplied with maps and charts. Metric charts and apparatus are to be found in all the schools outside of England, and in all departments. Small natural history collections are occasionally seen, but usually there is a large museum in the city which the classes, accompanied by their teachers, visit, and thus some knowledge is gained of familiar objects in natural history. In this respect we in this country are sadly deficient.

The military spirit which prevails in Europe is manifest in the schools. On every occasion when I entered a room all the children rose and gave the military salute. This consists in gracefully raising the right arm and placing the hand, with the two forefingers extended, at the side of the forehead. Being a simultaneous and graceful movement, it is a pleasant sight.

The schools outside of England are closed on Thursday instead of Saturday, as with us. There are numerous other holidays, called festal days, which sadly interrupt the work of education. Some are prescribed by the church, others by the state. In Italy scarcely a week passes without one or two interruptions of this nature.

The studies pursued are much the same as here. In all the girls' departments instruction is given in needle and crochet work, in embroidery, and in the making of lace. Usually one afternoon of each week is devoted to handiwork of this nature. Much attention

is given to composition writing, far more than with us. The teachers all seem to take special pride in showing the compositions which the pupils have written.

In our schools, except in the higher departments, the girls and boys are generally taught together. In Europe, this co-education of the sexes is unknown; in all the departments, from the lowest to the highest, they are separated. In Paris I found a custom prevailing which I did not observe elsewhere: the boys are all taught by men, and the girls by women.

Free schools for children of all classes, such as we have in this country, are, as a rule, unknown in Europe. The terms "public" and "free" are applied to their schools, but with a meaning different from that which belongs to them as used here. A "public elementary school" is one subject to governmental control; a "free school" is one which, in a measure, is free from such restrictions and regulations as have been prescribed by the government. Both classes receive assistance from the public treasury, but not sufficient to meet all the expenses. Tuition fees are charged in both. Those known as "public schools" receive more aid from the government than those called "free," and hence the latter are more expensive to the patrons than the former. The proportion of expense paid for tuition varies in different countries. In London and Paris about four-fifths of the entire expense of maintaining the elementary schools are paid by the government, and the balance is assessed upon the parents of the children who attend. Last year the fees in London ranged from four to eighteen cents per week for each pupil. This is about the average in other countries; in some, the percentage paid as tuition is lower, and in some it is higher. In several of the countries the governments have prescribed the maximum and the minimum for the charges that can be made, and the local authorities determine the varying amounts between these extremes that shall be paid by the school patrons, according to their varying financial conditions. I found, in some cases, that there was an ascending scale of fees charged, the expense being very slight in the lowest departments, and gradually increasing through the advancing grades.

In all the countries provision is made for the free education of those who are unable to pay. Such children, however, are looked upon as pauper pupils. Sometimes all such are gathered together, and the school is known as a pauper school. The rule is, those who can pay, must. The distinction between the rich, or those in moderate circumstances, and the very poor, is thus made unpleasantly prominent.

Such, in brief, are a few of the observations I should make respecting the character and work of those schools abroad which correspond most nearly with our public schools; and, in making a general comparison, that shall be limited to schools of this grade, I feel justified in saying that our educational systems and methods of teaching are superior to those of Europe.

Technical Schools in France.

There is another class of educational institutions to be found abroad, corresponding to which we have very few in this country, and in the study of which we may learn an important lesson. I refer to technical schools, or schools for workmen.

France has probably done more than any other country in fostering technical instruction. Special schools for educating workmen and artisans are found in every city throughout the republic. These are so conducted that any one, at a trifling expense, may pursue that course of training which will fit him for any trade or profession he may desire to pursue. The schools are divided as follows:—

1. *Normal Schools.*—In France there are eighty-six departments. In each of these there are two normal schools for the training of teachers; one for young ladies and the other for young men.

2. *Professional Schools.*—In these schools, pupils from twelve to sixteen years of age are taught to work in wood, iron, and brass. They are also instructed in mechanical and architectural drawing. A portion of the time is given to mental studies, especially to such as are in somewise related to the trades taught.

3. *Industrial Schools.*—Pupils are here taught the art of making textile fabrics. Different materials are used, such as silk, wool, cotton, hemp, and flax. Much attention is paid to chemistry, because of its importance in the art of dyeing. The most thorough instruction is given in the art of designing.

4. *Schools of Fine Arts.*—Here every facility is afforded for obtaining a knowledge of drawing, designing, and modelling. In this class of schools the instruction is limited to art as applied to industry, or to what is known as industrial drawing.

5. *Trade Schools.*—These are sometimes called apprentice schools. In them the ordinary trades are taught.

These special or technical schools are supported in various ways. A few receive direct government aid; some are supported by the departments. The trade schools are generally established and maintained by capitalists and manufacturers. Those interested in any particular line of business will contribute the funds necessary to support a school in which instruction in their trade can be given, and thus many large manufacturing firms educate their own workmen. These trade schools frequently receive some assistance from the cities in which they respectively are situated. But few of the schools are entirely free. The pupils generally pay a small tuition fee; the amount thus paid, however, being trifling.

These institutions may be divided, according to their support, into five classes:—

1. *Government Professional Schools*, which receive their support from the government, and are under the direct control of the Minister of Agriculture and Commerce.

2. *Department Professional Schools*, which receive assistance from the departments in which they are respectively situated.

3. *City Professional or Trade Schools*, which are supported in part by municipalities.

4. *Society Trade Schools*, which are controlled and supported by organized societies of tradesmen and capitalists.

5. *Private Trade Schools*, which are conducted strictly as private enterprises.

The exhibits made by these industrial schools constituted the chief attraction in the French educational department at the Paris Exposition. The exhibits consisted of articles made by the students including drawings, models, machines, designs for textile fabrics, pottery decorations, lace, jewellery, clocks, watches, &c.

Technical Schools in Russia.

The exhibit made at Philadelphia by the technical schools of Russia suggested the establishment of the industrial department connected with the Institute of Technology at Boston, which has met with such marked success. The exhibit at Paris was much of the same character; it was far more extensive, however, and many of the articles manifested a higher degree of workmanship.

The *Institute of Technology* at St. Petersburg made an exhibit of students' work in wood and iron that was truly marvellous. The workmanship shown in the production of some of the articles was of the highest order. This school was founded in 1828. It has at present about 600 pupils. The course of instruction extends over five years. In the mechanical workshops the students commence with the trade they have chosen; they first learn the uses of the various tools, and are taught certain test operations; they then proceed to the modelling of various machines and mechanical apparatus from given designs. In constructing an engine or any other complicated machine, each student makes but a single part. Any one will readily understand how accurate must be the workmanship, and how closely the designs furnished must be followed in each case, to insure a perfect agreement when those parts are brought together.

The *School of Trades* at St. Petersburg serves as a preparatory school for the Institute of Technology already described. Pupils thirteen years of age, who have completed a three years' course in a Gymnasium, may enter this school. The course covers two years. Two hours each day are given to work in wood, two hours to work in iron, and four hours to study.

An exhibit was made, by the *Imperial School of Technology*, situated at Moscow, an institution similar to the Institute of Technology at St. Petersburg.

The *Central School of Technical Drawing* at Moscow made a fine exhibit of designs, drawn by the pupils for painting and weaving and for ornamental purposes; also landscapes from nature, sketches

of animals from nature, copies from originals in plaster, linear drawings from copies and from dictation, perspective drawings, &c.

The various exhibits of articles made by the technical schools of Russia displayed more systematic training and a higher order of workmanship than were shown in those of any other country.

Industrial schools similar to those of France and Russia are established in every city of importance throughout Germany, Austria, Switzerland, Holland, Belgium, and Italy.

Technical Education in England.

England has done less than the Continental nations in the establishment of trade schools. In fostering schools of industrial art, however, no nation has done more. At the London Exhibition of 1851 it was revealed that England was far behind her great rival nations upon the Continent in the production of articles requiring skilled labour and taste. This was acknowledged by judges of her own appointment. Convinced of her inferiority, she set herself vigorously at work to recover what she had lost. Her first act was the establishment of the South Kensington School. So rapidly was instruction in art as applied to industry provided for and diffused among the labouring classes, that within ten years after the founding of this noble institution there were in successful operation no less than 125 branch schools in different parts of the kingdom, in which instruction in industrial art was given to many thousand pupils. The results of this effort to give to England's artisans and workmen the same educational advantages as those upon the Continent received, were manifest at the next great World's Exposition, held in Paris in 1867. Instead of being next to the bottom in artistic production, she took an honourable rank among the nations which had hitherto so far surpassed her. This marvellous advance, made since 1851, stimulated France, Germany, and other nations to improve and increase their already renowned art and trade schools. But England was not yet satisfied. She sent a commission of workmen to the Exposition of 1867, and the reports made, although admitting that their country took a much higher rank in artistic productions than she did at the Exhibition of 1851, showed that she was not yet fully abreast of other nations. Mr. John Bandall, one of the commissioners, said :—

"When we come to high class ornamentation in iron, earthenware, china, or glass, the superiority of French art is obvious. As long as we confine ourselves to geometrical forms in hammering, pressing, turning on the lathes, or printing on the surface, we have no difficulty in holding our own; but where an intellectualism is concerned, or a free educated hand is required in decoration, our deficiencies become apparent."

With characteristic energy she founded more schools of technical art, increased her appropriations for their support, and enlarged her museums. On the South Kensington School of Art and Science

she has expended 6,000,000 dols., and 500,000 dols. are annually appropriated for the support of this institution, and its branch schools and classes. The wisdom of this liberal policy was manifest at the late Paris Exposition. Here England, in her industrial arts, was again brought into comparison with other nations of the world, and the showing made was one of which she has reason to feel proud. The exhibit of stoneware made by Doulton and Co. was as artistic as the best produced in Germany. Bohemian or Parisian glassware is not more elegant in form, more varied in ornamentation, or more artistic in the cutting, than that exhibited by several English firms.

The English porcelain made by the Wedgewoods, Mintons, &c. is not surpassed either by Dresden or Paris. Thus, in stoneware, china, and glass—three industries in which, according to the report already quoted, she was behind other nations in 1867—England is now fully equal to the most advanced, and in some varieties of these wares, she is superior. The effect of her art schools was seen in other departments of fine artistic work.

These results are directly attributable to the South Kensington School. This school is a grand centre for the education of the people in art, as applied to industry. It is a noble institution, and, together with its branch schools in all parts of England, constitutes the most comprehensive and best organised system of art schools in the world. The object of this school is to promote instruction in drawing, painting, modelling, and designing for architecture, manufactures, and decorations, especially among the industrial classes. To effect this object there are connected with the department: first, a museum; second, a national art training school; third, aid is granted towards the training of art teachers; fourth, towards instruction in art in art schools; fifth, towards teaching drawing in art classes; and sixth, towards the teaching of elementary drawing in elementary day schools.

The museum contains objects collected with a view to illustrate the history, theory, and practical application of decorative art. It is the largest of its kind in the world.

The National Art School is at South Kensington. Its object is to train art instructors, and to educate students in drawing, designing, and modelling, as applied to the requirements of trade and manufactures. The instruction given is of the highest order, and all departments of industrial art are included in the course. Certificates are granted, which give to the graduates authority to teach in any of the art schools in the kingdom.

The training colleges for teachers are schools of art, situated in different parts of the kingdom, for the convenience of those who desire to become art instructors. They receive aid from the department at Kensington. The amount of aid received is determined in each case by an examination; 2·50 dols. are paid for each exercise of a specified grade successfully worked by the students.

The schools of art are devoted entirely to instruction in artistic decoration; there are 143 already established. Art classes are organised for the purpose of giving instruction of an elementary character as a preparation for those who desire to enter the art schools. The number of such classes now in operation is 724.

The art department encourages the teaching of drawing in all the elementary day schools.

Need of Educated Workmen in America.

The demand for skilled labour has increased wonderfully in our own country within the past few years. Until recently, our manufacturers have had no higher ambition than to produce plain goods such as could be sold for the smallest sum of money, and such as necessarily left to the manufacturer the smallest margin of profit. The greatest demand has been for goods of this class, and the producer has done but little to create a desire for anything better. The necessity for goods which are intended for service only will always continue, but there is a rapidly increasing number of our people who require not only that an article purchased shall be serviceable, but that it shall be an object of beauty also. Their houses must be elegant as well as comfortable. The furniture must be in style; the carpets, curtains, upholstery, &c., must all be in harmony; the porcelain, the glass, and the silver-ware must be graceful in form and rich in ornamentation.

How shall this demand be satisfied? What is our true policy? Shall our manufacturers continue to limit their productions to ordinary goods, and allow to foreign countries the entire monopoly of the market for wares which possess the artistic element? Our workmen continue too much in their accustomed grooves, and for want of sufficient breadth of knowledge are continually making mistakes, wasting material, and losing opportunities of trade. Goods of high artistic merit are being imported which should be made in this country; designs are secured abroad which ought to be produced here, and, to a degree which is humiliating, we have become a nation of copyists. Designers come from Europe and occupy places in our manufacturing establishments, at good wages, which ought to be filled by our own people. With rare exceptions, the skilled workmen and artisans in this country are foreigners. What we need is a style of ornamentation for the goods we produce which shall be original, and which shall have characteristics peculiar to this country. This we cannot hope for till we give our workmen an opportunity to acquire a technical education.

WHAT HAVE WE DONE FOR OUR WOMEN?

What have we done for our women—is a question which every educated Native of India is bound to put to himself and to answer. It is high time, we think, that this question, so momentous,—so intimately connected with India's future,—so closely allied to India's

past, so essentially necessary for the regeneration of India, should seriously engage the attention of the present generation. To us it appears to be a solemn question which demands a solemn and truthful answer. India is showing signs of re-awakening after a slumber of ages. Western education, bringing glad tidings of Western civilisation, is gradually unclosing the sleepy eyelids. She is gradually opening her eyes,—casting her looks around, and the more she is so doing, the more is she becoming conscious of what she once was—what she now is. Like *Rip Van Winkle* of the romance, she awakes to find her *Smider* of glory gone; her very sons and daughters, once how mighty, how glorious—how proud of Science, Literature and Art, now how 'changed,' how 'fallen,' how 'altered'—how physically weak, intellectually degenerated, morally depraved, socially demoralised, and spiritually idol-ridden and engulfed in superstition of all kinds. Well may she ask herself, "Am I *that* India?" Well may she entertain doubts of her own identity, so complete a metamorphosis has she undergone. And how does she find her beloved daughters?—daughters who were once renowned in Science and Art,—daughters who at one time breathed the air of freedom—who adorned society, who fought her battles, who sacrificed their lives rather than their honor,—daughters whose deeds of filial piety, brotherly love, conjugal fidelity, universal love of humanity and unbounded charity are written in letters of gold on every page of the history of Ancient India? She now weeps over the sad sight that greets her affectionate eyes. Banished from Society, domineered over by the harder sex, pent up within the walls of a Zenana, shut out from the light of knowledge, victimised by superstition and prejudices, shackled by absurd customs, treated as goods and chattels—every inclination of their heart stifled and smothered, and every hope crushed out of their souls; the toy of selfishness and of all sorts of base passions that can stir up the hearts of the dominant sex, they present a mere spectre of their former selves. There is not the slightest exaggeration in the present condition of our women. If these lines touch the hearts of our educated countrymen, they cannot help asking the question—what have we done to raise them, to elevate them, to free them from the superstition of ages, and to place them in their former position? It may be asked why should we trouble ourselves with the thought of elevating our women? We say, if not for any other reason, yet simply because they are human beings whose condition is pitiable and calls for amelioration. But apart from this humanitarian view of the thing, are there not other reasons for which we should bestow a thought on the present condition of our women? Are we trying to grow into a nation? Does India's past allure us to something higher, nobler and grander than our present position? Does it create a desire to become what we once were? Does the history of other nations who are basking under the sunshine of freedom, make us sad and discontented, and invite

us to become a stronger, mightier, and a more civilized nation? If they do, then we must try to elevate our women—our daughters, sisters, mothers. Why? Hear what Napoleon one day said to Madame Campan: "What is there wanting in order to train up young people properly in France?" "Mothers" replied Madam Campan. "Well," said Napoleon, "it must be your endeavour, Madame, to form mothers who will know how to educate their children." Rousseau is known to have remarked: "Men will be always what women please; if you wish men to be great and good, teach women what greatness and goodness are." History will furnish ample answers to the "whys" of our countrymen. It is only the other day that we read of the influence which Professor Fawcett's mother exercised over his career in life. If therefore there is the necessity of ameliorating the condition of our women, the question which we ask to-day becomes very pertinent. And what's the answer educated Bengal can conscientiously give to this question? The answer is, humiliating though it be, we have done nothing worth mentioning. It is indeed true that Western education is silently and imperceptibly working a mighty change in our society. True it is, that even the most orthodox Hindu now-a-days thinks of sending his young girls to schools. True, the huge rock of prejudice against female education is being roughly hewn asunder. True, the light of education is fast dissolving the thick mist of superstition that enveloped the land, and is penetrating into the middle classes. True, girls' schools are springing up here and there and number several hundreds on their rolls. But what proportion do these schools bear to the number of women whose claims we are to-day advocating? Not even one to one hundred thousand. Besides these elementary schools what have we done to better the condition of our women? Absolutely nothing. How many of our countrymen have given the subject of female education even a thought? The confession is humiliating, but truth requires that we should make it. Let the question of 'what have we done for our women' be asked in every house, resound through the length and breadth of India; let it be in every educated Indian's lips, let it engage the serious attention of every young son of India who breathes, and then in time we shall certainly get an answer that will soothe our aching heart.—*Brahmo Public Opinion.*

GOVERNMENT CENTRAL BOOK DEPÔT.

LIST OF NEW BOOKS RECEIVED INTO THE GOVERNMENT CENTRAL BOOK DEPÔT, BOMBAY, FROM 16TH AUGUST TO 15TH SEPTEMBER 1879.

New Editions of the following Books published

MARATHI.	Rs.	a.	p.
Departmental 5th Book, 5th stereotyped edition.....	0	14	0
Putvardhan's Elementary Geography, Part II. (Description of India) Third edition	0	1	6

New Books published.

KANARESE.	Rs.	a.	p.
An Elementary Geography, Part I., (Description of the Bombay Presidency) ...	0	2	0
Do. do. Part II. (Description of India)	0	2	6

Government Publications for sale.

ENGLISH.			
Gazetteer of the Bombay Presidency, Vol. III.—Kaira and Panch Mahals ...	2	0	0
Do. do. Vol. IV.—Ahmedabad	2	4	0
Selections from the Records of the Bombay Government, No. CLII. New series. Report on the Architectural and Archæological Remains in the Province of Kachh	1	14	0
Notes on the Bauddha Rock-Temples of Ajanta, their Paintings and Sculptures, &c. &c. &c.....	5	0	0

DEPARTMENTAL NOTICES.

University Graduates and the 25 years of age Rule.

NOTIFICATION.

The subjoined Government Resolution No. 2838, dated 20th August 1879, is published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction, 4th September 1879.

No. 2838.

FINANCIAL DEPARTMENT.

Bombay Castle, 20th August 1879.

Letter from Mr. V. M. Samarth, dated 12th August 1879,—Requesting to be informed whether the rule prohibiting the employment in Government service of persons of the age of 25 years and upwards holds good in the case of University Graduates.

RESOLUTION.—The question to be answered in the affirmative.

(Signed) J. B. PEILE,
Acting Chief Secretary to Government.

To Mr. V. M. SAMARTH, the EDUCATIONAL DEPARTMENT of the SECRETARIAT, the ACCOUNTANT GENERAL.

Correction in Standards of Educational Department.

NOTIFICATION.

The subjoined Government Resolution No. 1044, dated 27th August, and Notification of the same date, are published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
5th September 1879.

No. 1044.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 27th August 1879.

Letter from the Director of Public Instruction, No. 2219, dated 19th August 1879—Reporting that a mistake has been made in the Marathi Standards; pointing out the same and appending a Notification with a request that it may be signed and inserted in the *Government Gazette*. Stating that two hundred copies of the slip might be sent to him by the Central Press.

RESOLUTION.—The Notification should be issued, and the Superintendent of the Government Central Press requested to send two hundred separate copies of it on slips to the Director.

(Signed) J. B. PEILE,
Acting Chief Secretary to Government.

To the DIRECTOR of PUBLIC INSTRUCTION, the SUPERINTENDENT GOVERNMENT CENTRAL PRESS (with the Notification).

EDUCATIONAL DEPARTMENT.

Bombay Castle, 27th August 1879.

No. 1045.—"Vulgar Fractions" are transferred from Standard V. to Standard IV. of the Marathi Standards published in the *Government Gazette* of the 28th October 1875, pages 1070 to 1073.

By order of His Excellency the Honourable
the Governor in Council,

(Signed) J. B. PEILE,
Acting Chief Secretary to Government.

Supply of Blankets and Umbrellas to Peons.

NOTIFICATION.

The subjoined Government Resolution No. 2858, dated 21st August 1879, is published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction, 9th September 1879.

Contingent Bills. No. 2858.

FINANCIAL DEPARTMENT.

Bombay Castle, 21st August 1879.

Letter from the Accountant General, No. F.A.-7236, dated 12th August 1879—Representing, with reference to the charges for blanket and umbrella allowance to the peons in the contingent bill of the Revenue, Financial and General Departments of the Secretariat for June 1879, that Government sanctioned* the issue of blankets and umbrellas to all the peons each year at a cost not exceeding Rs. 2-4-0 for a blanket and annas 14 for an umbrella; stating that there is, however, no sanction for the grant of a money allowance at the full rate in lieu of the articles which may possibly be purchased for less than the fixed amounts; and suggesting that the articles may be purchased and supplied in future in order not only to be in accord with the sanction, but to ensure an uniform quality and description of article instead of giving a money grant to the men.

* *Vide* Government Resolution, General Department, No. 2423, dated 9th August 1876.

RESOLUTION.—The suggestion that blankets and umbrellas should be purchased and supplied should be attended to in future. The money should not be given to the peons to purchase the articles themselves.

J. B. PEILE,
Acting Chief Secretary to Government.

To all DEPARTMENTS of the SECRETARIAT, all HEADS of OFFICES in the PRESIDENCY TOWN, the ACCOUNTANT GENERAL.

Mary Carpenter Scholarships.

NOTIFICATION.

The National Indian Association of London having founded five scholarships for girls studying in the Marathi, Hindustani, and Gujarati Girls' Schools in the Island of Bombay to be called "Mary Carpenter Scholarships" the following provisional regulations are sanctioned for their award for the year 1880.

The value of these scholarships and the conditions on which they are tenable are as follows:—

All *bona fide* pupils of Marathi, Hindustani, and Gujarati Girls' Schools in Bombay, whether Government, aided, or private, are admissible to the competition.

Two scholarships of Rupees 6 each per mensem to be awarded to the two girls who pass the best examination under the VIth Standard for Girls' Schools on the condition that the successful candidates while holding the scholarships serve as pupil teachers in a school open to Government inspection, and give satisfaction to the Managers and the Government Inspector.

One scholarship of Rs. 5 per mensem to the girl who passes the best examination under the Vth Standard for Girls' Schools, on condition that she continues to attend a school open to Government inspection, and makes satisfactory progress under the VIth Standard.

Two scholarships of Rupees 4 to the girls who pass the best examination under the IVth Standard on similar conditions.

The scholarships will be tenable for one year from the 1st of January 1880. They will be open to all pupils of the Marathi, Hindustani, and Gujarati Schools, who have attended the school for at least 6 months previous to the examination, and whose conduct and regularity of attendance are well reported on by the school master or mistress.

The scholarships will be competed for at an examination which will be conducted by the Educational Inspector of the Central Division, or by a Committee appointed by him.

The examination will take place in the third week of December, the day and place will be fixed by the Educational Inspector, Central Division. The names and ages of candidates should be submitted to the Educational Inspector not later than the 30th November.

T. B. KIRKHAM,
Acting Educational Inspector, C. D.

Poona, Office of the Educational Inspector, C. D.,
25th September 1879.

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT FROM THE 16TH AUGUST TO THE 15TH OF SEPTEMBER 1879.

21*st August* 1879.—Eighty-two days' sick leave is granted to Mr. K. M. Samarth, Assistant Master, Narayen Jugannath High School, Kurrachee.

21*st August* 1879.—Mr. Udhavdas Satrandas is appointed Acting Third Assistant Master, Narayen Jagannath High School, Karrachee, *vice* Mr. Samarth, on leave.

22*nd August* 1879.—Leave, without pay, from the 15th of September to the 1st of November 1879, is granted to Mr. G. K. Joshi, Acting Sixth Assistant Master in the Satara High School.

22*nd August* 1879.—Mr. A. M. Thakur, Seventh Assistant Master, Satara High School, is appointed substantive *pro tem.* Assistant Master in the same School, *vice* Mr. Joshi, on leave.

22*nd August* 1879.—Mr. B. P. Lad, Eighth Assistant Master, Satara High School, is appointed substantive *pro tem.* Seventh Assistant Master in the same School, *vice* Mr. Thakur, promoted.

26*th August* 1879.—Mr. K. B. Pathak, B.A., is appointed substantive *pro tem.* First Assistant Master (Marathi side,) Belgaum High School, until the end of School vacation.

5*th September* 1879.—Mr. Sitaram Pandurang Renavikar, is appointed to act as an Assistant Master in the Kolhapur High School, in place of Mr. Panhalkar.

6*th September* 1879.—Mr. V. B. Shete is appointed Acting Eighth Assistant Master in the Ratnagiri High School, *vice* Mr. Lele, on leave.

10*th September* 1879.—Two months' sick leave is granted to Mr. Narayan B. Wadke, Drawing Master Training College, Dharwar.

10*th September* 1879.—Mr. Mahadeo Sitaram Deshpande, is appointed Acting Drawing Master in the Dharwar Training College, *vice* Mr. Wadke, on leave.

13*th September* 1879.—Mr. G. L. Joshe, English Teacher Second Grade Anglo-Vernacular School, Malegaon, is appointed Seventh Assistant Master, High School, Dhulia.

13*th September* 1879.—Mr. Balajee Mahadeva Patwardhan, Sixth Assistant Master, Nasik High School, is appointed English Teacher, Malegaon, Second Grade Anglo-Vernacular School.

13*th September* 1879.—Mr. Govind Bhikji Joglekar, Seventh Assistant Master, Nasik High School, is appointed Sixth Assistant Master in the same School.

13*th September* 1879.—Mr. S. S. Pathak, is appointed Seventh Assistant Master (on probation), Nasik High School.

13*th September* 1879.—Mr. P. D. Athale, is appointed substantive *pro tem.* Seventh Assistant Master, Nasik High School, *vice* Mr. Pathak, on leave, without pay.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
17*th September* 1879.

THE

Bombay Educational Record.

No. 11.] NOVEMBER 1, 1879. [Vol XV.

THE MONTH.

THE Municipal Corporation of Bombay have voted Rs. 17,500 towards Primary Education for the year 1880.

IT is a circumstance worth noting that Education Bills are at the present time agitating Belgium, Germany, France, and England.

THE great public Reading Room of the British Museum, London, is now lighted with the Electric light and opened for readers at night.

MR. BECKMASTER, the lecturing agent of the South Kensington Science and Art Department, recently addressed a meeting at Horsham. After explaining the scheme of the Science Department, which he believed was capable of raising the agriculture of the country to the dignity of a scientific industry, he said that to develop the productive powers of the earth by a knowledge of God's laws was surely the noblest and most honourable of occupations. He wanted farmers to know something of these laws, and turn them to useful service in their daily work. There was no antagonism between science and practice; but when men spent, he was told, sometimes more than half their rent in manures, without any knowledge of the wants of the crops they proposed to grow, or the composition of the manures they purchased; then the money was often wasted, and science was blamed for the mistakes of ignorance. It was because our knowledge was so limited and imperfect that our

practice was often unsatisfactory. The remedy for this state of things was not to be found in the perpetuation of ignorance, but the diffusion of knowledge.—Several questions were asked by teachers, and, after the usual votes of thanks, the meeting separated.

THE subject of technical education occupied the attention of the Society of Arts some weeks ago, Professor Thompson, of University College, Bristol, ridiculing the present system of apprenticeship, and advocating the establishment of schools in which the technical education of handicrafts should be conducted on the principle of progressive competence. Professor Huxley, who presided, said that the people of this country deserved to be taxed "down to their very shoes" in regard to technical education, if they did not insist that the "possessors of enormous wealth" in the city applied that wealth to its proper purpose.

A GIGANTIC telescope, which is said to be the largest in the world, has just been constructed for Sir Henry Bessemer by Messrs. Galloway, engineers and ironfounders, Knott Mill Ironworks, Manchester. The telescope, which is a marvel of ingenuity and workmanship, and is estimated to cost 40,000*l.*, was recently inspected by a number of gentlemen.

A RUSSIAN physician, M. Malarevsky, struck by the prevalence of shortsightedness among literary men, proposes that books should be printed in white ink on black paper, and he has made experiments with 50 persons which tend to confirm his view.

AN American School Journal very truly points out that "In no occupation, besides teaching, is there such pressing need of new thoughts, ideas, and illustrations; in none is there such a tendency to fall into "ruts"—to do the same thing over and over in the same way and to say the same thing over and over day after day. A wise teacher reasons as a woman does when she buys a sewing-machine, or as a farmer does when he buys a mowing-machine. He avails himself of the thoughts and discoveries of others on education. Hence the importance of *educational publications*; they are the cheapest, readiest, and surest means a teacher can

employ to keep himself and his school up *in front*. To be a first-class teacher you must know what the most skilful of your profession would do if in your place."

A JOINT-STOCK DICTIONARY.

Dr. Johnson, who was an authority on many subjects, and should have known something of dictionary-making, defined a lexicographer as "a harmless drudge." In dedicating the plan of the book to Lord Chesterfield, whose polite neglect so bitterly incensed him afterwards, he said he knew such work was "generally considered as drudgery for the blind, as the proper toil of artless industry; a book that requires neither the light of learning nor the activity of genius, but may be successfully performed without any higher quality than that of bearing burdens with dull patience, and beating the track of the alphabet with sluggish resolution." That was the judgment of the man who is still called the "Great Lexicographer," when, in 1747, he began the work which laid the foundation of most modern dictionaries of the English language. When it was finished, he might have said, "Alone I did it," for his only assistants were the copyists to whom he dictated his definitions. Instead, he asked the man who had carried the last sheet to Millar, the publisher. "What did he say?" "Sir," said the messenger, "he said, 'Thank God I have done with him!'" And Ursa Major, in his greatest style, replied, "I am glad that he thanks God for anything." Some such scheme, on a larger scale, seems to arrange itself in that far-off future when the world will be made happy by the completion of the work which was foreshadowed in the Philological Society's "Proposal for the Publication of a New English Dictionary," just twenty years and three months ago. All England and America were appealed to for help in the compilation, and hundreds of volunteers throughout the world set to work to assist the staff of sub-editors who were engaged under the chieftainship of Mr. Herbert Coleridge to perform the mighty task. Mr. Coleridge died, and was succeeded by Mr. Furnivall; the Early English Text Society was started to help in the labour, and all went merrily till some tons of material had been accumulated, and the decay of enthusiasm amongst the volunteers left the enterprise aground. The original design has had to be restricted; and now, when Dr. Murray and a new staff of assistants propose to get out a "smaller dictionary," about four times the size of Webster's quarto, half as big again as M. Littré's French dictionary, and filling 7,000 quarto pages, a fresh appeal is made to the devotees of bibliology. It is hoped that in the space of about ten years the top stone may be placed upon this monument of "harmless drudgery." We shall admit that it deserves a more flattering appellation; but the man who lives to see the final page will "thank God," as piously as Dr. Johnson's publisher, that he has "done with him."—*Globe*.

ETYMOLOGY—ITS USES AND ABUSES.*

Etymology deals with the history of words—the sources from which they are derived—the various changes they have undergone in form and meaning, and their historical relations to cognate terms in kindred tongues. It is the business of the etymologist to discover the original form and meaning of words, by the resolution of compounds into their simple elements. In English and all its Aryan congeners, what appear to be most simple forms are in reality not so, but on being subjected to a closer examination are found to be derivatives or compounds. Etymology is an analytical science, and is, so to speak, the chemistry of speech. In the linguistic laboratory, compounds are resolved into their elements, whereby the qualitative values of the component parts are exactly ascertained. It is not, perhaps, possible to make the pupils in our schools chemists or philologists; but, by a rational treatment of these and other scientific studies, we may not only use them as a mental training and intellectual discipline, but may also succeed in fostering a decided taste for one or more of them, which shall excite a spirit of inquiry, and lead the student to take up some one subject for special investigation when his school-days are ended, and he is out of the leading-strings of his instructors. We should seek to make the pupil love knowledge for its own sake, for the spirit of research is as valuable to the student as the results which it enables him to produce.

Professor Max Müller has well observed, that "there is in the human mind a craving after Etymology; a wish to find out by fair means or foul, why such a thing should be called by such a name." In directing the attention of the speaker or reader to the words he uses, we are only satisfying a natural curiosity—and curiosity is the parent of knowledge. We cannot hope in our schools to produce scientific etymologists, that is to say, philologists; but we may, by "word-analysis," enable those we teach to perceive many linguistic processes, and learn much of the first principles of the science of language.

As no instruction can be carried on without the employment of words (or of signs and symbols answering to them), the right understanding and use of them are matters of no slight importance; but the accurate and exact employment of words must in a great measure depend upon the manner in which we have seized their true and real signification; for words without sense are a useless and barren acquisition. The skilful teacher is not likely to overlook this point. In the study of Botany, Geology, &c., there is presented to the learner a scientific terminology which almost amounts to a new language, and the memory is often severely taxed in the demands

* A paper read before the College of Preceptors by the Rev. Dr. Morris, Mr. C. F. Mason in the chair.

thus made upon it. The teacher usually attempts to lessen the mental strain by the aid of the very principle upon which this retentive faculty depends (the association of ideas). He calls in Etymology as his auxiliary, and associates the new terms with their original meanings, and thus enables the learner not only to have a stronger hold upon the words, but a far clearer appreciation of their meaning than he otherwise would have had. Thus Derivation (a branch of Etymology) not only enters into all grammatical teaching, but forms a part of many other and widely different branches of knowledge. But it is the linguistic side of Etymology that is to occupy our attention this evening.

Here, again, its importance, especially as regards our own language, has received general acknowledgment, judging by the number of independent works on Etymology (few, however, of a trustworthy character), and by the copious lists of roots that one finds, not only in English grammars, but even in ordinary school reading books. It has always seemed to me a great waste of labour to load such works with long lists of Anglo-Saxon, Latin, and Greek roots. There is, of course, some reasonable excuse for lists of prefixes and suffixes in a grammar—they render the work more complete, and are valuable for reference; but a long array of Teutonic and classical vocables are not necessary in English grammars and readers. As a rule, such collections are very inaccurate, especially so are the lists of Teutonic roots. An Anglo-Saxon dictionary is often the only guide the compiler seems to have had. He has little or no knowledge of the language itself, and he is, therefore, easily led astray when his authority is inaccurate, or fails him altogether: and so we frequently find in such lists imaginary roots, unreal derivatives, and unhistoric connections. If the teacher thinks that the history of the Teutonic element in his own language is worth knowing, and worthy of a place in any educational course, let him take the trouble to make himself acquainted at first hand with its older forms through its early literature, and he will not have occasion to employ any "word-lists." His own reading will furnish him with an ample store of roots. His knowledge, thus derived from the fountain-head, will keep him clear of many of the most common faults made by those who rely on dictionaries alone. His derivations will not be marred by "guess-work," and he will not easily be misled by accidental resemblances.

One important part of English etymology is the grouping of words derived from the same root, as (1) *bind, band, bond, bandage* (but not *bandage*), *bundle, bundrel, bond, &c.*; (2) *burn, brier, brand, bryst, brimstone, brown, brandy, brûle* (through the Dutch), *brunette* (through the French). This is an interesting process whereby the laws of word-formation are discovered, and the pupil should be encouraged to perform it; the teacher being content to correct any false derivations which are sure to be suggested.

I find that a recent compiler of school books has, under the title

of "The Branching of Words," introduced this subject to a rather youthful class of learners in one of "Chambers's English Readers"; unfortunately, he has committed the very mistake that the pupils must be guarded against,—he has found resemblances where none really existed. Serious blunders occur on every page; they are, however, instructive as showing how easily one may be deceived by a mere accidental similarity. With *beat* (to strike), the compiler connects *bat*, *battle*, *batter* (all of which are directly of Romance origin). *Batter*, too, is made to intrude itself into this family (*cf.* Greek *βούτυρον*, from *βοῦς*, ox, and *τυρός*, cheese). Batter would, of course, suggest *battery*, which however is allied to the *battle* family. Grouped with *break* we actually find *broach* (connected with *brooch* and *brocade*); and *brush* (directly from the French) connected with *brush* in *brushwood*; *bruise* is connected with *burst*, but it comes through French into English; *bray*, direct from the French; *brittle* (A.S. *bréotan*, to break). With *lie* he wrongly connects *slight*; this latter, however, is of the same origin as the adjective *light*. And in the *meet* group, we find *mate*, of uncertain origin, which may represent M.E. *make*, a companion. *Mote* is wrongly connected with to '*moot*.' *Tally*, of Romance origin, is made a relative of *tell!* Some of these guesses are so bad that one is reminded of Swift's whimsical derivation of *apothecary* from a *pot he carries*.

This false grouping is an abuse of Etymology, and can serve no useful purpose. It is misleading and bewildering, and does much to make the subject contemptible. In this matter, accuracy is of the highest importance. With respect to the classical element in English, the teacher—and perhaps pupil too—is no doubt placed under more favourable circumstances, and has no need to resort to any cut-and-dried "word-lists." But, with whatever element the teacher may be dealing, I would say, do not burden the pupil with any long lists of roots, for it is by no means necessary. I would say, too, do not try to teach Derivation as you would Geography, History, &c. In these and numerous other subjects in the educational curriculum, all the facts are at first foreign to the learner, and outside his ken and observation, and have to be brought in a systematic order before him. A large amount of "memory-work" has to be got through; the dry skeleton must be built up before it can take a flesh covering on it, and be vivified. As regards English etymology, the facts are not altogether beyond the pupil's own observation and experience. He has a store of them; they are ever ready at hand, if he can but speak and read his native tongue. This store of knowledge that he is in possession of may easily be increased by other relative facts, if as is most likely the case he is learning other languages in addition to his own. How inexpensive a pursuit is etymology!—no materials to be purchased for analysis, no journeys to be made for the purpose of personal investigation. Under such conditions, the teacher need not be at any trouble to make large demands upon the learner's memory, but may rest satisfied with what

he finds, and endeavour skilfully to employ the materials at hand as far as they will go. He will have numerous opportunities of directing the attention of his class to the derivation of words, whether it be in Grammar, in Dictation, in the study of an English classic, in the acquisition of foreign languages (living or dead), and even in the very words that master and pupil make use of in their ordinary intercourse of speech.

An English Grammar lesson would receive additional interest and liveliness, were the subject of word-building as well as inflexional changes introduced to the notice of the class. Thus, for instance, in the treatment of *abstract nouns*, the pupils might easily be led to understand their true derivative character by the analysis of a few words like *goodness, whiteness, health, stealth, drift*, &c. They should also be required to form synthetically other abstract terms in strict analogy with those they have already dissected. I have found it useful to take such a word as *distant*, and ask for the abstract formed from it; as soon as I get the word *distance*, I try to have it translated, so to speak, by a more familiar expression (no great fault if it has to be coined for the occasion) as *far-off-ness*, or *apart-standing*; *ignorance* will be turned into a state of *un-knowing* (not an uncommon word in Middle English, or by *unknowingness*; *vision* would be rendered by *sight*; *confection*, a *make-up*; and so on. Or the process may be reversed: an abstract term may be given, in order to find out whether the concrete is known. The class will see why such an expression as "a state of ignorance" is loose and inaccurate, the suffix itself marking *state* or *condition*. In dealing with the adjective, the teacher will show by analysis how certain words (nouns or verbs) are fitted to be used as qualifying terms by a slight addition, as *hopeful, trusty*. If, as is most likely, the learners have some knowledge of Latin, their attention should be called to analogous formations; as, *double* (*duple*), *duplex* = *two-fold* (we once had *one-fold* = *simple*; *plentiful* and *copious* (*cf. bountiful* and *bounteous*; and so on with the other parts of speech. In pursuing this method there is little need of "cram." The habit of analysing thus induced will do much to make a class think a little more of the instruments they are always using, and they will feel a pleasure in finding that they cannot only dissect words but also make new ones out of existing materials. I do not advise the teacher, at any early stage of linguistic teaching, to trouble his scholars with the origin of inflexional suffixes; they were all once, no doubt, separate words, but have suffered such alteration that the closest analysis and comparison often fails to discover their primitive form and meaning. With few exceptions, the origin of suffixes can only be understood by bringing forward *comparative forms*; but there can be no comparisons before the facts themselves are required.

In a reading lesson, derivation naturally comes to the fore in connection with the meanings of words, especially of that large class called "dictionary words." It would properly come in as an

intellectual exercise, after the elocutionary or physical part of the lesson had ended, but it should not interfere with it. The consideration of the difficult words would form one or more etymological lessons. There are two ways by which the meanings of words are discovered. The first method is inductive, but this involves several processes. Elimination and approximation are necessary before the precise meaning or definition can be arrived at. But young readers will not take much trouble for themselves in this way; they are quite satisfied with a sort of vague notion of the meaning to be got from the context, and will not pause to consider whether each word carries home to them its own special signification. It is therefore often necessary to let them see how little they really know, and that, after all, the words they have been reading are mere sounds and nothing else. Their efforts to define a word are often fruitless,—oftentimes after the manner of Bardolph's attempt to fix the meaning of *accommodated*: "accommodated:—that is when a man is, as they say, accommodated, or when a man is being whereby a' may be thought to be accommodated: which is a most excellent thing." I have often heard the most absurd misuse of terms from school-children, arising from the reading or hearing of words that were but imperfectly understood, or entirely meaningless. A boy once told me that he had a *sicorious* vein. He meant of course *serious*; another declared he was suffering from a *cereal*, instead of a *cerebral*, complaint; and a third, who talked of *hybrid* terms, imagined they meant "not low-bred" ones. Similar blunders are committed by even older folks; there was a certain parish clerk who always spoke of the "psaltery and harp" as the "puzzle-tune and harp." The second method of ascertaining the signification of a word is by an etymological analysis,—that is to say, by *deduction*. This process is, of course, only an aid to definition. It cannot always be relied on for the present sense of a term. It is one of the things that the pupil has to learn, that words are constantly, though slowly, changing their form and meaning. Various shades of signification, arising out of the original, will often appear to be at variance with it. It will form a useful exercise to reconcile this apparent inconsistency by starting from the primary sense and by tracing out the various secondary meanings that have arisen out of the original root. Take the word *bazaar* for example (M. E. *bahesen*, *baysen*, from *bayen* to bend): (1) flexible, pliant; (2) obedient, submissive; (3) gracious; (4) good-humoured; (5) lively, healthy. Or take *crescent* as an illustration. It literally signifies "growing," "increasing"; then "the increasing moon," a crescent-shaped row of bosses, &c. It even "develops a group of new uses out of the fortuitous presence of the figure on the Mohammedan standard." A part of each reading lesson, then, should be devoted to meanings and to etymology.

The principle of "grouping" may of course be applied to the

classical as well as to the pure English element. Suppose the class to know nothing of Latin, and that one of the words that occurs in the reading lesson, and is picked out for explanation, is *super-scription*. Instead of at once trying to define the term, let us ask for words that contain the syllable *script*. There would be no difficulty in getting *description*, *inscription*, *subscription*, *scripture*, *prescription*, *postcript*, *transcript*, *script*, &c. From some of those nouns the class would discover the verbs from which they are formed, and would supply *describe*, *subscribe*, *transcribe*, *inscribe*, *scribe*, *scribble*. Starting then, from the vocable *scribble*, we should experience little difficulty in determining its meaning and associating it with the notion of "writing." Then, by the further analysis of each derivative, we should be able to bring out the force of the various prefixes and suffixes.

An easy lesson in composition might be made by the selection of a root or two that has been dealt with, to be worked up into a short narrative, which should contain all their well known derivatives. Or a piece of dictation might be given containing the branchings-out of a common root. The teacher of course would have to take the trouble to prepare a suitable passage in which the derivatives of forms like *leg*, *gen*, *pone*, (*pos*) would be introduced.

The piece to be dictated need not be long. The following rough attempt, with the root *leg* (*lic*), will suggest my meaning:—

"The *lectures* and *lessons* we received were much liked by those *intelligent* and *diligent* pupils who were deemed *eligible for college* life. The names of the *selected collegians* were not *legion*. We do not *recollect* the names of our *colleagues*. Some of them were by no means *elegant* in their attire. Their writing was not always *legible*. Many *legendary* matters were *collected* by those not *negligent* in *culling* such trifles. We did not *neglect* our *religious* duties: *collects* were said daily, and *collections* for the poor were made weekly."

But, to go a little higher, a class are engaged in the pleasant and profitable task of studying an English classic—say a play of Shakespeare. Here the teacher must be careful not to fall into the error of making his author a mere collection of "word puzzles." It is his duty to ascertain whether the students have read with the understanding, or only mechanically by getting up all the philological notes supplied by an indulgent editor. I have often been quite startled when, ignoring the "Notes" of the text, I have attempted to test the class by asking for a *paraphrase* of a tolerably plain phrase or passage, to find what a small amount of thought had been expended in laying hold of the author's meaning. I suppose that their very familiarity with the words of their author is itself a snare to them, and they imagine they know what is meant when they really do not, or have only a vague notion. It is a good plan to require classical derivatives to be explained by analogous English formations, as *obliged* = *bound*; *regard* = *look on*; *habit* = *behavi-*

out ; contagious = *touching ; to impose on* = *to put upon ; fertile* = *(fruit)-bearing*, &c.

Examining a very intelligent class lately, who were reading the "Merchant of Venice," I found nineteen out of twenty completely at a loss to explain the phrase "slips of prolixity." The nearest rendering that occurred to them was *exaggeration*. By analysing *prolixity*, the meaning of *prolix* was exhibited, and its association with *lucus* pointed out. There was then no difficulty in showing that *slips* = *mistakes ;* and they saw a similar formation in *lapse* from *labor*. Most members of the class were also perplexed by a passage that occurs just before this: "If my gossip Report be an honest woman of her word, &c." It is left unexplained in the "Clarendon Press" edition, and no attempt had been made on the part of any of the class to make it out for themselves. A reference to the etymology of *gossip* soon set the matter right. (1) *gossip* = *god-sib* = one *sib* or akin in God ; one having a spiritual relationship, as a God-father or God-mother ; (2) a familiar friend ; (3) a woman's bosom friend ; so used by Chaucer, and by writers after Shakespeare's time, &c. The *metaphor* employed was also alluded to.

In this passage several linguistic principles were involved, independently of the phonetic history of *gossip*. In the transition from the meaning of *spouse* to that of familiar friend, we have an instance of *generalisation* or extension of meaning ; in limiting it to a woman, we have *specialization* or restriction of meaning ; its modern use illustrates *deterioration* of meaning ; and lastly, there is the employment of metaphorical or figurative language. Each of these linguistic principles might be illustrated more at large, if necessary, by the change of meaning in other words. We see deterioration in words like *cunning, craft, fellow, knave, officious, sly*, &c. Occasionally we have the very reverse of this process, as in those terms that have acquired a slightly improved meaning, as in *feod* and *minister, nice, shrewd, knight*. (The German *knecht*, however, has deteriorated.) The restriction of meaning is seen in words like "conceit," a taking-up mentally, hence an idea, conception, and lastly a vain thought or imagination, hence vanity. This principle has been at work in *acre, furlong, planet, south, journal, bishop, priest, carpenter, smith, vision, speculation*, and many others. "The idea of *rolling* is specialized into the master *roll*, the breakfast *roll*, the *roll* of the drum, and *rolls* of fat ; by a longer route it comes to us in the form of the actor's *rôle*, and a slight addition makes of it *control*"* (*= counter-roll* = O F. *contre rôle*, "a duplicate register used to verify the official or first roll." *Rôle* carries us back to *rotulus*, from *rota*, a wheel).

The generalization or extension of meaning is the *reverse* process of that we have just mentioned, and very different in its effects, enlarging instead of contracting the sphere of a word's meaning

* Whitney.

often apparently quite independently of its original signification. This process is to be traced in class-names and technical terms, as *lamb, paper, copper, gazette, bank, bankrupt, lyrics, pomp, privilege*, &c. Occasionally, however, we find instances of common words receiving a technical application as *sight* in the following passage: "Soldiers, while at musketry practice, blacked their *sights* by setting fire to a piece of camphor and holding them in the flame." *Shunt* is now only a technical word—it was not so in the 14th century. It is not likely to remain such, for there is a tendency to use it in the general sense of "to put aside," "to put off."

Connected with this generalisation are figurative transfers, so general in all languages, even in the most familiar terms. This principle has a truly creative power, and adds largely to the vocabulary of a language. Thus, a dog has several qualities; it can trace or track out; it is sometimes sullen, hence we can make a mental transfer and talk of "to dog" (and "to hound down"), dogged, doggedness. We notice one of its physical peculiarities in *dog's-eared*. How vigorously does Shakespeare employ this very metaphor, along with others, in the following passage (King John IV., 3, ll. 148-150):—

"England now is left
To tug and scramble, and to part by the teeth
The unowed interest of proud-swelling state.
Now for the bare-picked bone of majesty
Doth dogged war bristle his angry crest,
And snarleth in the gentle eyes of peace."

Again, "Since fruit is apt to be *green* when not fully ripe, *green* becomes a synonym of *unripe* (and so we can commit the familiar linguistic paradox—that blackberries are red when they are *green*); and then, in less elegant diction, it is again shifted to signify immature, not versed in the ways of the world. . . . Our minds delight in the discovery of resemblances, near and remote, obvious and obscure, and are always ready to make them the foundation of an association that involves the addition of a new use to an old name. Thus, not only an animal has a *head*, but also a pin and a cabbage. A bed has one, where the *head* of its occupant usually lies, and it has a *foot* for the same reason, besides the four *feet* it stands on by another figure, and the six *feet* it measures by yet another. More remarkable still, a river has a *head*, its highest point, namely where it *heads* among the highlands—and so it has *arms*, or by another figure *branches*; or by another *feeders*; or by another *tributaries*; and it has a right and left *side*; and it has a *bed*, in which, by an unfortunate mixture of metaphor, it *runs* instead of lying still; and then at the farthest extremity from its head we find, not its feet, but its *mouth*. Further, an army, a school, a sect has its *head*; a class has its *head* and *foot*, and so has a *point*, though quite in a different way. A sermon has its *heads*, as divided by their different *headings*, and we can beg to be spared anything on that *head*. A sore comes to a *head*; so, by one step further away from literalness, a conspi-

racy, or other disorder of the state (the body politic) does the same. We give a horse his *head*, which he had before our donation; and then we treat in the same way *our* passions, that is to say, if by their overmastering violence we lose our *heads*."*

All metaphor comes under the head of figurative transfer. It is such a common habit of speech, that every language is, as Richter has well said, a dictionary of faded metaphors. To this principle we owe nearly all words that designate our mental and moral conceptions: as *wrong, right, upright, simplicity, apprehension, fathom, intelligence.* This transfer of physical and sensible relations often gives a very striking explanation of the more intellectual or abstract terms. In a play of Shakespeare there is full scope for the treatment of this principle and the pupils' ingenuity should be exercised in tracing out and explaining the metaphor involved. Take as an example the following from the "Merchant of Venice":—

"And other (fellows) of such *vinegar* aspect."

Here the "sour-look" shows an *acrid* state or bitterness of temper; and the metaphor is well expressed in the word *acerbity*. The same root occurs in the name for that sharp or *acute* attack of fever called ague, which we are not *eager* to experience. In the same scene of this play, a few lines off, we light upon another passage full of metaphor, of which we may take a part for examination:—

"There are a sort of men, whose visages
Do cream and mantle like a standing pond,
And do a wilful stillness entertain."

Each *metaphor* should be first expanded into its corresponding *simile*, and the points of resemblance particularised. Each word entering into the metaphorical expression will often be found to be itself figurative or metaphorical; as the standing or stagnant pond with its creaming or mantling (*cf.* "the green mantle of the standing pool." in King Lear). The difference of metaphor between *to cream* and to *mantle* should be noticed. How bold metaphor is may be seen in such expressions as "the cream or best part of a thing," and in the phrase "*to dismantle* a fortress."

I need not dwell, then, upon the importance of English Etymology as an intellectual exercise. It may, of course, be easily abused by being made to encroach upon the subject which it is intended to illustrate. Much more might be said with respect to this, but we must pass on to other branches of linguistic teaching in which Etymology need not be ignored. The Latin Grammar exercise or author may be made to serve several useful purposes. In the first place, every Latin word should, if possible, be associated with its English derivatives; in the next place, "word-analysis" should not be overlooked, as it will serve to make a grammar or reading lesson more lively and interesting, and the knowledge gained will be

* Whitney.

more intelligent and fruitful. In this matter the pupils' philological knowledge should be based upon their own observation. They will doubtless notice the frequency of certain Latin suffixes in such verbal nouns as *ag-men*, *flu-men*, *lu-men*, *se-men*, *stra-men*, &c. A slight inspection will enable them to detect the verbal stems *ag*, lead, drive (with *ag-men* compare Eng. *draw* from *draw*); *flu*, flow; *lu*, shine; *se*, sow; *stra*, scatter. With *lu-men = luc-men* is, of course, connected *luc-erna*, *luci-fer*, *luc-ubro*, *lu-na*, *lucubratio*, *illustris*, &c. The dropping of the guttural before a *nasal* may be further illustrated by *flu-men = flug-men*, *flu-mina = flug-mina*; *se-men* contains the same root as our *sow* and *seed* (*cf.* Ger. *sä-en*, to sow; *Sa-men*, *Saat*). The Latin *serere* is a reduplicative form = *se-sere*. Another common suffix is *-trum*, as in *ara-trum*, from *arare*; *fere-trum* from *fero**; *claustrum* from *claudere*, *rostrum* from *rodo*. The last two words may serve to point out a similar phonetic change in other terms. Thus the supine ending is always *tum*, however much disguised it may be, for *clau-sum = claud-tum*, &c.; *so sas-si = sad-tus*; *visio = vid-tio*; *lassus = lad-tus*.

Other common suffixes are *-bulum*, *-bula*, *-culum*, &c., in *pa-bulum*† (from root *pa* in *pascor*, to feed); *fabula* (from *fa*, to speak); *speculum* and *spectaculum*; *ful-crum*, *ja-culum*; all of which are easily analysed. The consideration of some suffixes leads to interesting results; thus *fa-ma* contains the root *fa*, speak, and suffix *ma*; so *bruma = brev-ma = brevi-ma*, connected of course with Latin *brevis*, short.

The teacher should endeavour to avoid taking up doubtful or difficult formations. The comparative philologist knows that *cerebrum* is *brain-bearer*, the first part of which‡ is cognate with M. E. *hern-pan = brain-pan* (*cf.* German *Ge-hir-n*); but it would not be clear to the ordinary scholar, who probably would be unable to connect *ser* in *cerebrum* with *cer-eis*, *cer-n-ere*, *pro-cer-ĕ*.§ It would be a sheer waste of time indeed to dwell upon such points as these, and doubtless the class would regard them much in the same way as they would the tricks of a very clever conjurer.

Word-grouping, too, might find a place in a Latin lesson: *habeo* would suggest *cohibeo*, *prohibeo*, *exhibeo*, *inhibeo*, and *debeo* (= *dehibeo*); *habito*, *inhabito*, *habitatio*, *habitus*, *habitudo*, *habena*, *habilis*. *Acer* would suggest *acĕdia*, *acidulus*, *acerbus*, *acerbitas*, *acerbo*, *acies*, *acervus*, *acus* (needle), *acus*, *acar*, *acetum* (vinum), &c.‖ The root *cand* (originally *skand*) to *shine*, *burn*, covers in *candeo*, *candesco*,

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* *Cf.* Eng. *bier* and *bear*.

† *Pa-bulum* = a means of feeding; *pa-bulatio* = feeding; *cf.* Eng. *fodder* from *feed*; compare also *pasco*, *pater*, *papa*.

‡ A very advanced class might see that the *brevis = bregvis*, from root *breg* of which *frag* in *frango* is a variant, cognate with English *break*.

§ *Cf.* Sansk. *çiras*, head, Gr. *κάρη*, *κάρηνον*, *κορυφή* (Engl. *crown*).

‖ *Odor*, *odium*, and *ægre* are probably connected with the root *ak*.

candeo, candentia, candor, candidus, candido, candidâtus, candîla, candilabrum, cicindêla, incendo, causa incendiaria, incendialis, incensio in-cassum, &c.

Attention may also be directed to the root meaning; as in *computo, amputo*, denominative verbs from *putus* = *pura, clear.** *Puto*, then, means to *clean up*, by trimming or pruning; to *clear up* (as an account), and so to *reckon, calculate, think*. *Redintegratio* = *restoration* goes back to vb. *integro*, from *integer, whole, sound*, from the root *tag* of *tango*, to touch. So *suadeo* must be connected with *suavis* (= *svadevis*) sweet; compare *suavium*, a kiss. The root *pet*, to fly, in *peto*, brings out the meaning of *impetus, impetuosus, perpes, penna, propes accipiter*. The root often gives the leading meaning, but where it does not, the pupils' attention should be directed to it; † as, *mitto*, to throw, let go, let loose; compare *missio missilis*.

Without talking of Grimm's law, the progression of notes would doubtless be a matter they would take note of in such familiar words as *pa-ter*, father; *pes* (= *pedis*) foot; *fra-ter*, brother; *ferre*, to bear; *dens* (= *dents*) tooth; *decem*, ten; *duo*, two; *tres*, three; *tu*, thou; *canis*, hound; *cor* (= *cordis*), heart; *ego*, I (O. E. *ic*), *&c.*

The teacher, however, should not be anxious to draw attention to these phonetic changes at any early period of instruction in Latin. In most of our schools French is taken up about the same time as Latin, and the study of the two languages goes on together. To a certain extent comparative etymology is forced upon the pupil, and the teacher would, of course, take care to explain the real nature of the likeness between the living and dead tongue. Apart from this easily recognised similarity, the pupils' attention would be directed to numerous letter changes; all taking place, not arbitrarily, but according to the regular phonetic laws. They would thus be enabled to trace the connection between words looking very much unlike, and yet having an etymological connection, as *couch, lieutenant*, and *collocate; chief, captain*, and *cabbage; cage, cajole, jail*, and *cave, &c.*

In comparing *fête* with *feast*, and *tête* with *testy* (Fr. *tête*), &c., they would see that the dialect that gave us our words was not identical with modern French. The word *tête* is a good example of a popular superseding a literary form. It carries us back to Latin *testa*, originally a piece of burnt clay, a pot; head or skull (*cf.* Eng. brain-pan). *Tê*, a skull, shell, is the doublet of *tête*; *test, teston, tester* are allied words. Of course we might trace this much further. Lat. *testa* stands for *terstâ* (*cf. testus* or *torstus*), which is a derivative of *torreo* (= *torseo*).‡ *Terra* is dry land, *das Trockene*. More remotely, *torreo* is connected with the root *tars*, to be dry (*cf.* Sanak. *tarsha*, thirsty; Eng. *thirst*; Ger. *Durst*).

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* *Purus* belongs to this root *pu*, so does *purgo* (= *purigo*), *pûs* and *pumex*.

† The compounds *admitto, omitto, &c.*, indicate this.

‡ *Cf. torreo, torridus, torridi, turris; testudo, testudo, testaceus, &c.*

Examples of compounds will afford plenty of room for "word-analysis." The grouping of words brings out strongly the principles of word-building; thus, the English words *count, amount, surmount, insurmountable, discount, mountain*, come to us through the French from the Lat. *mons*; and M. Bréal, in his "L'enseignement de la Langue Française," shows us how this grouping may be made very instructive. He says:—

"Ici surtout il importe de choisir ses exemples: autant que possible des verbes, et des verbes ayant pris naissance en Français. Tel est le verbe *monter*, qui vient du substantif *mont*, l'idée du mouvement ascensionnel en général ayant été exprimée par un verbe qui voulait dire d'abord escalader une montagne. Voyez-vous la hardiesse d'une langue qui dit: *monter* à cheval, le prix du blé a monté, le vin *monte* dans la bouteille. Ce verbe a donné les composés: *surmonter* (avec son dérivé *insurmontable*), *remonter* (un cavalier de remonte), *démonter* (cette interruption a *déjoué* l'orateur). On dit aussi: la *montée* d'une colline; le *montant* d'une échelle, ou encore d'une note à payer; le *montage* d'une machine, d'une filature; la *monture* d'un cavalier, ou encore celle d'un thermomètre, d'un violin, d'un pistolet, d'un éventail, d'un bijou. Quand on dit qu'un directeur de théâtre *monte* une pièce, on compare le drame à un mécanisme dont les acteurs et les décors forment les ressorts et les rouages. *Monter* la tête à quelqu'un, c'est lui disposer la tête de telle façon qu'elle soit prête à un certain acte, ordinairement quelque sottise. Nous retournons maintenant au primitif *mont* pour l'entourer de ses dérivés *montueux* et *montagne* (qui a donné *montagnard* et *montagneux*). Enfin, en Latin *mons* avait déjà donné *promontoire*."

It is now almost time to bring this paper to a close; but before doing so I must crave your indulgence for a while, while we just glance at another modern language admirably adapted for etymological analysis and linguistic training. German is perhaps not so popular in our schools as French; but it is a speech rich in derivatives and compounds, and most fully and clearly illustrates the processes and principles of "word-building."* I need hardly dwell upon the close kinship of German with English—a fact that every schoolboy soon finds out for himself, though he is often ignorant of the true relationship that exists between them, and fondly imagines that the English people had no language before the Germans made them a present of theirs.

The pupils will experience no difficulty in connecting *Bruder* with *brother*; *Dieb* with *thief*; *Brot* with *bread*; *theilen* with *deal*;

* "In words, forms, and constructions, it is enough unlike English to call forth and exercise all the pupil's power of discrimination, to sharpen his attention to the niceties of word and phrase, and train his philological insight; while at the same time the fundamental relation of German to the most central and intimate part of English makes the study instinct with practical bearings on our own tongue, and equivalent to a historical and comparative study of English itself."—*Whitney.*

sees with *sox*, &c. From this comparison they will soon find out the regular interchange of sounds between these two kindred tongues. They will also be enabled to see that German often preserves older forms, that is to say, has undergone less change, than modern English; as, *Hagel* and *hail*; *fliegen* and *fly*; *Vogel* and *fowl*; *Zahn* and *tooth*; *ich* and *I*; *Kinn* and *chin*, &c. It should be the teacher's business to see that no compounds are slovenly passed over, without any attempt to analyse them. Many analogies will suggest themselves in this operation. Thus *be-kommen* answers to our 'to come by,' 'to get,' 'obtain'; *Verbrennung* = 'a for-burning,' 'a burning up,' 'combustion'; *Eitig-sam-keit* etymologically corresponds very closely to M.E. *buxomnesse* (*cf.* Eng. *buxom*), and is well rendered by 'flexibility'; *Stand-haftig-keit* to *steadfastness* and 'constancy'; with *Gefangnies* (from *fangen*, to take, seize), we may compare the elements of *prison* (= *prehension*), Lat. *prensionem* from *prehendere*. In *Be-kannt-schaft* we recognise an exact equivalent of 'acquaintance.' The Romance term comes from a Low Lat. *adcognitare*, a derivative of the theme *gno*,* in *cognosco* and *nascere*, which again is cognate with the German *kennen* and *können*, and Eng. *ken* and *can*;* *un-be-wohn-bar*, 'uninhabitable,' contains a root akin to M.E. *wonen*, to dwell, and Eng. *wont*; *un-duld-sam*, in-tolerant, may be compared with Middle English *un-thefiande*, intolerable; while *un-ge-duldig* = impatient, is related to the Older English *un-thuldeliche*, impatiently.†

But a caution is needed here. Words should not be put side-by-side for the mere sake of comparison. Thus, nothing much is to be gained by comparing Germ. *blind*, *bange*, *Kuh*, with our words *blind*, *hang*, and *cow*. We only get the mere fact of resemblance—but we want something besides this. For instance, the comparison may give, as we have seen, laws of sound-change, or older forms. It may also give us more than this. *Sterben* by the side of its English equivalent leads us up to the older meaning of our *starve*, which once had the sense of 'to die.'

The German *Vieh* shows that our word *fee* had once meant cattle as indeed it does, even in Middle English, in the following passage:—

> "The herdes [herdsmen] that were wont to be
> On feilde, was tho with her [their] *fe* [cattle]."
>
> *Cursor Mundi*, p. 645, l. 112, T. 42.

The A.S. *feoh*, cattle, preserves the original guttural; *cf.* Latin *pecus* and *pecunia*. It is not enough to say that German *finger* and *fang* leave their exact analogies in English. We must go further, and show their relation to *fangen* and *fathem*. (Old Eng. *fon*, pt.

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* *Cf.* English *could*, and Early English *with knowe*, acquaintance.

† *Cf.* A.S. *thyld*, *gethyld*, patience; *gethyldig*, *gethyt*; *thyldian* to endure; *gethyldan*, to bear, suffer, with Germ. *geduld*, *geduldig*, *geduldan*. The A.S. *thyldan*, with its Teutonic cognates, are, of course, related to Lat. *tuli*, *tollo*, and *tolero*.

fang, p.p. *gefangen*, to take, seize). German *Zimmer* is akin to English *timber*; but we cannot say 'to timber' (A.S. timberian), to build, German *zimmern*. Timber reminds us of the German *Bauer* and English *boor*. The pupil who knows that *er* is a suffix, used to form nouns from verbs, will probably connect *Bauer* with *bauen*, to build, till. (With *Bauer*, a peasant, we may compare *boer* (of Dutch origin) and neigh-*bour*; A.S. *gebur*, a tiller.) All these allied forms carry us back still farther, to the ultimate root *bhu*, 'to be' (*Cf.* Lat. *fui*, Gr. φύω, φύσις, φύομαι, &c.)

And here etymology becomes inductive, scientific, and historic. But comparative philology is only a luxury for very advanced students. In this as in other branches of instruction, we must be careful not to go over the heads of our pupils, ignoring their age and acquirements. Scientific etymology is not for those who are as yet only acquainted with the rudiments of a foreign tongue, whose grammatical forms are but imperfectly fixed in the memory. To tell a learner, who has not overcome the difficulties of French conjugations, that the future tense is an analytic form compounded of the infinitive and a part of *avoir*, is an abuse of etymology and of historical grammar.

There is no lack of good works on scientific etymology and on the historical treatment of English, French, Latin, &c.; but what is wanted is not new school books, but newer and better methods of instruction. The very best manuals are useless if the teacher be not fully equipped for the work he has undertaken. Out of the full treasury of his knowledge he must bring forth for the benefit of his scholars things old and new; and his treasury will need frequent replenishing if he would avoid that stagnation which is so fatal to school life, to real intellectual progress, and all true culture.

GOVERNMENT CENTRAL BOOK DEPÔT.

List of New Books received into the Government Central Book Depôt, Bombay, from 16th September to 15th October 1879.

New Works published by the Department.

SANSKRIT.	Rs.	as.	p.
Kalidasa's Vikramorvaśiyam, a Drama in 5 Acts, edited, with English Notes, by S. P. Pandit, M.A., (No. XVI. of the Bombay Sanskrit Series)	2	0	0
Valmiki Balakanda, the First Book of Rámáyan, edited, with English Notes, by P. Peterson	0	14	0

New Editions published.

Departmental Marathi Fourth Book, 6th Stereotyped edition	0	10	0

Fresh Supply purchased.

Dadoba Pandurang's Grammar of the Marathi Language for the use of the Senior Students, 7th Edition, revised, improved, and enlarged 1 12 0

DEPARTMENTAL NOTICES.

Telegrams on Public Service.

NOTIFICATION.

The subjoined Government Resolution No. 7 T-1200, dated 1st October 1879, Public Works Department, is published for the information of Educational officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
18th October 1879.

Telegraph messages despatched on the public service—Necessity for brevity in.

No. 7 T.—1200 of 1879.

Public Works Department.

Bombay Castle, 1st October 1879.

Letter from the Secretary to the Government of India, Home, Revenue, and Agricultural Departments, No. 43-1698, dated 17th September 1879.

Forwards, for information and guidance, copy of the Government of India Circular No. 1, dated 18th March last, issued by the Public Works Department, drawing attention to the necessity for brevity in telegraph messages despatched on the public service, and for confining the use of the Telegraph to cases of a really urgent nature.

RESOLUTION.—To be communicated to all Departments for information and guidance.

W. A. BAKER, Colonel, R.E.,
Under-Secretary to Government.

To all DEPARTMENTS of the SECRETARIAT, the Public Works Department (Railway), the PUBLIC WORKS DEPARTMENT (Irrigation), the SUPERINTENDING ENGINEER for Irrigation, the SUPERINTENDING ENGINEER S. D., the SUPERINTENDING ENGINEER C. D., the SUPERINTENDING ENGINEER N. D., the SUPERINTENDING ENGINEER in SIND, the EXECUTIVE ENGINEER, ADEN, the EXAMINER of PUBLIC WORKS ACCOUNTS; with spare copies for distribution.

The Shoe Question.

NOTIFICATION.

The subjoined Government Circular No. 3150, dated 9th October 1867, Political Department, is reprinted for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
30th October 1879.

Circular.

No. 3150 of 1867.

POLITICAL DEPARTMENT.

From C. GOKHE, Esq., Secretary to Government, Bombay.
To the DIRECTOR of PUBLIC INSTRUCTION.

SIR,—I am directed to communicate to you the subjoined extract from a letter from the Government of India, dated 11th September No. 1543 of 1867.

'It was proposed to the High Courts of Bengal and North-Western Provinces to issue a Circular order to the following effect':—

"A variety of practice and consequent doubts having been found to exist as to the manner in which Native gentlemen who have adopted the English habit of dress in respect of boots or shoes and stockings, should be allowed to appear at receptions, public and private, and in Courts of justice, His Excellency the Governor-General in Council has been pleased to prescribe the following rule for general observance in the Political Department.

"Native gentlemen, distinctly habited as above, shall not be required to take off their shoes or boots upon any occasion, whether the Court or place of public or private reception be carpeted or not."

2. The Right Honourable the Governor in Council is of opinion that this rule should be generally adopted in the Bombay Presidency. In making this intimation for your guidance I am to remark that in the Political Department the rule applies only to the Officers employed by the British Government, and will have no direct bearing upon the Durbars of the Native Chiefs themselves.

I have the honour to be,
Sir,
Your most obedient servant,

(Signed) C. GOKHE,
Secretary to Government.

Bombay Castle, 9th October 1867.

Rules regarding Memorials by Government Officers in Civil employ.

NOTIFICATION.

The subjoined Government Resolution No. 2883, dated 14th October 1879, General Department, is published for the information of Educational Officers.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
30th October 1879.

No. 2883.

Extract from the Proceedings of the Government of Bombay in the General Department, dated 14th October 1879.

Read the following extract from the Proceedings of the Government of India, in the Home, Revenue, and Agricultural Department,—(Public), No. 46—1772-98, under date Simla, the 26th September 1879:—

READ—

Home Department Resolution No. 33-1649, dated the 19th October 1876, prescribing rules in regard to the presentation of memorials by officers in the civil employ of Government.

Despatch from the Secretary of State No. 75 (Public), dated the 31st July 1879, on the subject of the orders in the above-quoted Resolution, prohibiting the submission of joint memorials.

RESOLUTION.

Rules I. and II. of the rules promulgated with the Resolution of the 19th October 1876,* are as follows:—

I. Every officer wishing to address a memorial to Government shall do so separately and not in concert with others.

II. No officer in the employment of Government may submit any memorial in respect to any matter connected with the official position which he occupies, in which he is not personally interested, except as the agent of some person or persons unable to act in their own behalf.

2. Her Majesty's Secretary of State for India having suggested that these two rules might be made more clear by the addition of

* See *Record for January* 1877, page 17.—ED. B. E. R.

words explaining that Rule I. is not meant to prohibit the private interchange of individual opinions, and that the personal interest referred to in Rule II. may be indirect, the Governor-General in Council is pleased to direct the substitution of the following rules:—

RULE I.—Every officer wishing to address a memorial to Government shall do so separately and not in concert with others, but this prohibition against the submission of joint memorials is not intended to apply to or affect the private interchange of individual opinions.

RULE II.—No officer in the employment of Government may submit any memorial in respect to any matter connected with the official position which he occupies in which he is not personally interested except as the agent of some person or persons unable to act in their own behalf. The personal interest referred to in this rule may be indirect.

3. His Excellency in Council desires further to explain that the general prohibition against the submission of joint memorials does not affect the case of any correspondence which the Managers of Service Funds *as such* may have to conduct with Government.

ORDER.—Ordered that this Resolution be circulated for information and guidance to all Local Governments and Administrations, to the several Departments of the Government of India, and to the High Court, the Superintendent of Port Blair and the Nicobars, and to the following officers:—

The Sanitary Commissioner with the Government of India, the Director General of Archæological Survey of India, the Surveyor General of India, the Superintendent, Geological Survey, the Meteorological Reporter to the Government of India, the Trustees of the Indian Museum, the Secretary to the Board of Examiners, the Registrar of the Calcutta University, the Domestic Chaplain to the Lord Bishop, Calcutta.

RESOLUTION.—Copy of this memorandum, with the Resolution, to be furnished to all Departments of the Secretariat, to the Commissioner in Sind, the Commissioners of Divisions, and the Secretary, Civil Fund, for information and guidance. A copy may also be published in the *Government Gazette* for general information.

Ordered that copies of the above be forwarded to—All Departments of the Secretariat, the Commissioner in Sind, the Commissioner, N. D., the Commissioner, C. D., the Commissioner, S. D., the Secretary, Civil Fund, Bombay, the Accountant General, and all other Heads of Offices under the Revenue, General and Financial Departments.

J. B. PEILE,

Acting Chief Secretary to Government.

Supply of Medicine Chests to District Officers.

Medicine Chests.

No. 2234.

GENERAL DEPARTMENT.

Bombay Castle, 20th August 1879.

Transfer from the Educational Department of the Secretariat, No. 965, dated 6th August 1879, of the following paper:—

Letter from Director of Public Instruction, No. 1938, dated 31st July 1879,—Requesting that Government may be pleased to extend the benefit of their Resolution No. 165, dated 17th January 1874, General Department (regarding medicine chests supplied gratis to District Officers), to Educational Inspectors and Deputy Educational Inspectors.

Memorandum from the Surgeon General, Indian Medical Department, No. 2759, dated 15th August 1879,—Reporting, with reference to the above, that there is no objection to the Educational Inspectors and Deputy Educational Inspectors being supplied with tin medicine chests in accordance with Government Resolution No. 468, dated 13th February 1871; and stating that when necessary they can be replenished at the stations mentioned in Government Resolution quoted by the Director of Public Instruction.

RESOLUTION.—The request of the Director of Public Instruction may be complied with.

J. B. PEILE,

Acting Chief Secretary to Government.

To the EDUCATIONAL DEPARTMENT of the SECRETARIAT; the DIRECTOR of PUBLIC INSTRUCTION; the SURGEON GENERAL, INDIAN MEDICAL DEPARTMENT; the ACCOUNTANT GENERAL.

Extract, para. 1, of a letter No. 3493, dated 21st October, from the Surgeon General Indian Medical Department.

"In reply to your letter No. 3226, dated the 18th instant, I have the honour to inform you that the indent for the medicine chest therein alluded to, should be forwarded to the Principal Medical Storekeeper, Bombay, for compliance."

Copies of foregoing correspondence are published for the information of Educational officers in the Central Division.

T. B. KIRKHAM,

Acting Educational Inspector, C.D.

Poona, 17th October 1879.

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT, FROM THE 16TH SEPTEMBER TO THE 15TH OCTOBER 1879.

18th *September* 1879.—Mr. Nagindas Narbheram, Head Master, Surat Vernacular School, No. III., is appointed Head Master, Revised Vernacular School.

18th *September* 1879.—Mr. Balwant Vishnu Mahajani is appointed substantive *pro tem.* Eighth Assistant Master, Satara High School.

25th *September* 1879.—Mr. P. A. Mistri, F.A., is confirmed as First Assistant Master (Gujarati side), Elphinstone High School.

25th *September* 1879.—Mr. B. F. Patel, B.A., is confirmed as Second Assistant Master (Gujarati side), Elphinstone High School.

29th *September* 1879.—Mr. Krishnaji Govind Oka, F.E.A., is appointed substantive *pro tem.* Second Assistant Master, Tanna, First Grade Anglo-Vernacular School.

29th *September* 1879.—Mr. Vishwanath Sadashiva Deodhar, Fourth Assistant Master, Tanna, First Grade Anglo-Vernacular School, is appointed Acting Third Assistant Master in the same School.

29th *September* 1879.—Mr. Narhar Sadashiva Mahajan, Fifth Assistant Master in the Tanna First Grade Anglo-Vernacular School, is appointed Acting Fourth Assistant Master in the same School.

29th *September* 1879.—Mr. Pandurang Waman Tankasalé, Sanskrit Teacher in the Tanna First Grade Anglo-Vernacular School, is appointed Acting Fifth Assistant Master in the same School.

29th *September* 1879.—Three months' leave, on private affairs, is granted to Mr. G. B. Joglékar, Sixth Assistant Master, Nasik High School.

29th *September* 1879.—Mr. Mahadev Laxuman Matangé is appointed Acting Sixth Assistant Master, Nasik High School, *vice* Mr. Joglékar, on leave.

30th *September* 1879.—Two months' leave, without pay, is granted to Mr. Hari Ramchandra Patwardhan, substantive *pro tem.*, Thirteenth Assistant Master, Poona High School.

2nd *October* 1879.—Mr. S. C. Anikhindikar, F.A., is appointed Third Assistant Master, Karwar English School, on probation.

3rd *October* 1879.—Mr. Vasudeva Vinayek Chatré is appointed substantive *pro tem.* Thirteenth Assistant Master in the Poona High School, *vice* Mr. Parwardhan, on leave.

4th *October* 1879.—Leave without pay is granted to Mr. P. N. Joag.

Second Assistant Master, Satara High School, from the 8th to the 31st October 1879.

4th *October* 1879.—Mr. K. K. Sathé, Third Assistant Master, Satara High School, is appointed substantive *pro tem.* Second Assistant Master in the same School, *vice* Jog, on leave.

4th *October* 1879.—Mr. B. V. Bhidé, Fourth Assistant Master, Satara High School, is appointed substantive *pro tem.* Third Assistant Master in the same School, *vice* Mr. Sathé, promoted.

4th *October* 1879.—Mr. V. A. Dabké, Fifth Assistant Master in the Satara High School, is appointed substantive *pro tem.* Fourth Assistant Master in the same School, *vice* Mr. Bhidé, promoted.

4th *October* 1879.—Twenty-five (25) days' leave, without pay, is granted to Mr. J. B. Kanga, Acting Fourth Assistant Master, (Gujarati side), Elphinstone High School, from the 7th instant.

6th *October* 1879.—Mr. Dorabji Kharsedji Nariman is appointed substantive *pro tem.* Fourth Assistant Master, Elphinstone High School, during the absence of Mr. Kanga.

8th *October* 1879.—Mr. R. J. Vakil is appointed Third Assistant Master (Gujarati side), Elphinstone High School, *vice* Mr. Patel.

8th *October* 1879.—Mr. P. K. Sanjana is appointed Fourth Assistant Master (Gujarati side), Elphinstone High School, *vice* Mr. Vakil.

8th *October* 1879.—Mr. R. S. Daruwala is appointed Fifth Assistant Master (Gujarati side), Elphinstone High School, *vice* Mr. Sanjana.

8th *October* 1879.—Mr. J. B. Kanga, B.A., is appointed Sixth Assistant Master (Gujarati side), Elphinstone High School, *vice* Mr. Daruwala.

8th *October* 1879.—Mr. K. N. Contractor is appointed substantive *pro tem.* Second Assistant Master, Karachi High School, and Acting Second Assistant Master, Hydrabad High School.

8th *October* 1879.—A month's privilege leave is granted to Mr. Wamon Gopal Indapurkar, Second Assistant Master, Dharwar High School.

11th *October* 1879.—Mr. V. K. Hardikar is appointed substantive *pro tem.* Fifth Assistant Master in the Satara High School, *vice* Mr. Dabké.

15th *October* 1879.—Mr. S. A. Palsikar is appointed substantive *pro tem.* last Assistant Master in the Dhulia High School.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
17th October 1879.

THE

Bombay Educational Record.

No. 12.] DECEMBER 1, 1879. [Vol. XV.

THE MONTH.

His Excellency Conselleo Senhor A. A. D'Aguiar, the Portuguese Delegate who has arrived in Bombay to carry out the recently negotiated treaty of Commerce between Portugal and India, is also a Professor of Chemistry at Lisbon and takes the greatest interest in all matters educational. He has visited the Chief Colleges and Schools in Bombay and has, we understand, expressed great admiration at the efforts made by Government to promote education, and especial admiration for the buildings devoted to education, the magnificence of which took him completely by surprise.

The Senate of the University of London has at length determined to establish examinations in the Theory and Practice of Teaching. The following resolution was carried at the last meeting of the Senate by a large majority :—"That it is desirable to promote the knowledge of the Theory and Practice of Education among those persons who intend to become masters and mistresses in schools, and that it be referred to the Committee on Examinations in Arts, Science, and Laws, to report whether an examination in such subjects by this University is practicable, and, if so, to formulate for the consideration of the Senate a Draft Scheme and suitable Regulations for such Examination." An amendment was moved by a member of the Senate to the effect that the subject had not, as yet, been sufficiently ventilated to justify the Senate in taking action in the matter, but was lost on a division, the numbers being—for the resolution, 13 ; for the amendment, 5. Among those who voted for the resolution were the Chancellor and the Vice-Chancellor.

At the meeting of the Executive Committee of the Spelling Reform

Association, on Friday, the 17th October, Mr. C Darwin, Sir John Lubbock, Mr. Tennyson, and Prof. Monier Williams were elected members of the Association. It was announced that the Association was in communication with the American and German Spelling Reform Associations, and with the Roman-Urdu Society of Lahore. In France, M. Paul Jozon had lately published a system of phonetic spelling. At a second meeting, last Tuesday, it was determined to appoint a Commission to investigate the relative merits of the different schemes which have been proposed; and a list of names (not necessarily confined to members of the Association) was ordered to be prepared, so that the Committee might, at an early date, select the first members of the Commission.

Professor Morley writes that the admission of women to University College, London, has been found to create no practical difficulties except such as have easily been surmounted by judicious arrangement. The continued increase in the number of students attending the College, now more than 2,000, necessitates an extension of the College buildings. This work is now being carried out by the addition of a north wing, which will cost about £30,000, more than £20,000 of which have already been subscribed.

The Emperor Francis Joseph of Austria has conferred the gold medal for Science and Art on Madlle. Camilla Ruzicka Ostoja for a new Turkish and German dictionary, which the authoress recently published, with transcriptions of the Turkish words into Roman characters. This learned young lady has already distinguished herself in the department of Oriental languages at the Imperial Oriental Academy at Vienna.

The "Arithmometer" or calculating machine, of M. Thomas, of Colmar, which was invented in 1821, has since undergone many improvements at the hands of the inventor, and, latterly, of his son, M. Thomas de Bojano, so that it is now offered in a form which Mr. Sebert, in a recent report to the Paris Societe d'Enseignement, pronounced to be thoroughly adapted for practical use. The machine performs all ordinary arithmetical operations, comprising the extraction of roots. In the 44 years from 1821 to 1865, only 500

machines were sold; in the 13 years from 1865 to 1878, 1,000—viz. 300 in the five years, 1865 to 1870, 400 from 1870 to 1875, and 300 from 1875 to 1878, or, 100 a year. Of the latter number, about three-tenths are six-figure machines, six-tenths eight-figure, and only one-tenth ten-figure. Of 100 machines sold, 60 go abroad, and only 40 remain in France.

A NEW SORT OF SCHOOL.

Some time ago a scheme was set on foot at Manchester for establishing a "school of geography," with a view of enlarging the commercial mind as to the trading capabilities of the world in general. The idea was good; for the commercial mind is apt to run in well-worn grooves with regard to external trading. In olden times it was altogether different. Then adventurous spirits used to set sail from our shores carrying with them such British goods as would be most likely to find favour with the heathen. Carrying their lives in their hands, these valorous traders penetrated into all manner of outlandish countries; and, when they returned home—sometimes, it must be owned, they vanished clear away—they brought back with them such handsome profits that others were tempted to try the same venture. Nowadays our merchant princes give the preference to markets where smaller profits are coupled with greater security; and in so doing they may, perhaps, sometimes fail to utilise openings which the enterprise of our forefathers would have turned to good account. The chief object of the proposed school would be to obtain from authentic sources every fact of importance bearing on the geographical surroundings of these neglected trade routes. Africa, for instance, seems destined to become, sooner or later, a great consumer of European commodities, and the school would therefore tabulate all the information from time to time obtainable about the most practicable way of opening up the interior of the "dark continent" to English trade. Thibet, too, by recent accounts, would seem almost ready to become a customer of ours; but, in addition to the opposition offered by the authorities, some doubts exist as to which is the best route thitherwards from Hindostan. Even in such a comparatively well-known country as Afghanistan, it was discovered only the other day that a certain district previously believed to be almost barren and very sparsely inhabited, supports a large and prosperous population on its indigenous resources. Thus there is an ample field for the projected school, especially if it were to include in its curriculum a certain amount of commercial as well as geographical information. The world is full of openings for our trade if we could only turn them to account, and also knew beforehand what sort of commodities would be most likely to meet with a ready and profitable sale.—*Globe.*

TECHNICAL SCHOOLS AND COLLEGES.

A few years ago the very expression "technical education" was unknown; and now Professor Huxley and his friends are demanding a technical university. The growth of an idea is some testimony to its practical worth; and the claims of technical education bear looking into. Other nations have awakened to the need earlier than this nation. Year by year the system has developed in larger proportions. The question has long passed the experimental stage. English workmen are endued with a rough energy which does as much by roundabout processes as other workmen do by the help of rules. English industries of a certain kind might still very possibly hold their ground without technical education. But they would do it, even in these branches of trade, at a disadvantage. Technical education trains not men only, but masters. Foreign capitalists are educating themselves and their families to understand the material they work in. They are placing themselves in a position to derive all the many benefits which result from comprehending, as it were at a glance, both the proximate and the remote consequences of each new mechanical invention, wherever made. This truth is beginning to be appreciated in Great Britain, though, it must be admitted, very grudgingly and reluctantly. It still has more than enough opposition to encounter without wasting its strength on quarrels among its champions on the best way to commence. Some enthusiasts talk as if every artisan and employer of artisans in the kingdom were willing and anxious to be caught and taught offhand the rules and principles of his trade. But that is where the difficulty lies. If the schools are not ready, neither are the pupils. There is not much difficulty, after all, in perceiving what a perfect system of technical education would be. The child, as Professor Huxley said, ought to be first put in the road to become an intelligent man before an attempt is made to convert him into a skilled workman. Four years are not too much to teach his mind acquaintance with itself. The general faculties should have such cultivation as elementary schools can impart before they are immersed and fixed in the particular matter of some handicraft. Even, however, at the elementary school, the general cultivation might well be of a nature to habituate body and mind to work in combination. Children, though they be meant to serve behind a counter, or even to copy conveyances and pleadings, would not be the worse for learning that their minds and bodies are members of one partnership. Undoubtedly, the very large number of elementary scholars, whose destiny is the workshop or the plough-tail, would be infinitely the better for it. The only indispensable limitation is, that any physical training, as well as the mental, in early school days, should be general, and not special. On leaving the elementary school, whatever the admixture in it of the Kinder Garten, boys or girls intended for a handicraft should be able, while serving their apprenticeship to their trade, to attend a technical

school. In their master's shop or mill they would acquire the mechanical instinct. In the technical school they would learn the general principles which apply to the class of handicrafts of which that they pursue is one. Beyond, and higher than these, would be the special colleges, like the Prussian textile and metallurgical schools. Over and above all the separate institutions, the more fervid believers in technical education look forward to the foundation of a university of the mechanical arts. Such a crown to the edifice of technical education is a very noble vision. But its translation into brick and mortar and professorial chairs may well wait. It must first be proved that such a university is wanted, and next that the country is willing to find the money to endow it. The demand for the learning a university can supply ought to precede the creation of such an institution.—*Times*.

THE BIRMINGHAM SCHOOL BOARD AND MORAL INSTRUCTION.

In our issue for August last we gave an account of the debate in the Birmingham School Board on the subject of Moral Instruction, and promised to reprint the report of the Committee appointed on that occasion when it appeared. We now fulfil our promise and give below the suggestive report laid before the board and adopted for the guidance of their teachers.

The Report of the Committee was read by the Revd. Mr. McCarthy as follows :—

"They have had under consideration the important matter of the education of pupil-teachers, and they are of opinion that it would be a great boon to them, and would greatly improve their qualifications and training, if they could have rather more time for private study, and also special classes in which they could associate with others of similar standing with themselves, and working for the same examinations, and in which they could also receive instruction from special teachers. The proposed regulations provide for each of these points. Each pupil-teacher will, if those regulations be adopted, have two half-days in each week for private study, and will also enjoy the benefit of attending three special classes on each Saturday morning. As the number of pupil-teachers employed by this Board is so large, it will be possible to group them in such a way as to include in separate classes only those who are of the same standing, and who can therefore best sit together. The apprenticeship now extends over four years, and it is proposed to subdivide those in each year of their apprenticeship into three sets. There are three months in the year when no Board school is examined by Her Majesty's inspectors, and, consequently, dividing the remaining nine months into three stages will so limit the differences in the standing of the teachers as to bring together into one class only those who are not

more that three months apart in their course of work. The cost of this arrangement would be 6*l.* 6*s.* per Saturday, which for forty-three Saturdays in the year would be 270*l.* 18*s.* besides which there would be a little extra cost for fire in the winter months. It is possible that, in order to liberate the pupil-teachers for private study on two half-days in each week, it may be considered advisable to employ an additional pupil-teacher in each department. If so, the salary of such extra pupil-teacher will, of course, have to be added to the total cost. In reference to the question of moral instruction in our schools the committee propose to send to the head masters and mistresses of the Board schools the following circular :—

"1. I am directed by the Board to call your attention to the concluding sentence in Article 19*a* of the Code, which is as follows :—

"'To meet the requirements respecting discipline, the managers and teachers will be expected to satisfy the inspector that all reasonable care is taken, in the ordinary management of the school, to bring up the children in habits of punctuality, of good manners and language, of cleanliness and neatness, and also to impress upon the children the importance of cheerful obedience to duty, of consideration and respect for others, and of honour and truthfulness in word and act.'

"Also to the following passages in the circular addressed by the Education Department to Her Majesty's inspectors, No. 153, January 16, 1878 :—

"'It becomes, therefore, more than ever the duty of the Education Department to do all in their power to secure both that the most suitable and useful instruction, and such as is mostly desired by the parents, is furnished for the children, and that their moral training is fully provided for during the years which they will be compelled to spend in public elementary schools. . . . . My lords are anxious that you should lose no suitable opportunity of impressing upon both managers and teachers the great responsibility which rests upon them, over and above the intellectual teaching, in regard to the moral training of the children committed to their charge. You will express your special approbation of all schools where, from the knowledge which you have gained by repeated visits, you observe that a high moral tone is maintained. You will not fail to enlarge upon the Article (19 *a*) in the Code respecting discipline, as showing the interest taken by Parliament and by their lordships in this all-important subject, and, where it is not satisfactorily attended to, you will not hesitate to recommend a reduction of the grant. You will, in the spirit of the article, urge the managers to do all in their power to secure that the teachers maintain a high standard of honesty, truth, and honour in their schools, and that they not only inculcate upon the children the general duty of consideration and respect for others, but also the special duty of obedience to, and reverence for, their parents ; . . . . . and also to encourage such training in schools in

matters affecting their daily life as may help to improve and raise the character of their homes."

"2. From the above extracts it is evident that the Department expects that moral lessons will be given in the schools, and it has also been the rule to include the notes of a lesson on some moral subject amongst the questions on the school management paper set to candidates for certificates.

"3. In resolving that moral instruction shall be definitely provided for in the time table of each school, the Board does not, therefore, lay down any new principle, nor require from the teachers the performance of a duty for which their previous training has not prepared them.

"4. The lessons you have been accustomed to give—temperance, kindness to animals, and similar subjects—sufficiently indicate the character of the instruction for which the Board desires to afford increased facilities.

"5. As these lessons are to be given in ordinary school hours, it is hardly necessary to remind you that the resolution of the Board, desiring that the lessons should be given more regularly, does not involve any departure from the principle which has hitherto governed the policy of the Board in relation to religious instruction.

"6. The Board desires that after the Midsummer holidays two lessons a week, of half an hour each, shall be given to all the children in the boys' and girls' schools, and that an entry of these lessons shall be made in the time table. In the infants' schools the number and length of the lessons may be arranged by the head-mistress.

"The series should include such subjects as obedience to parents, honesty, truthfulness, industry, temperance, courage, kindness, perseverance, frugality, and thrift; government of temper, courtesy, unselfishness, and kindred moral duties.

"The lessons should be of a conversational character, and should be largely enforced by illustrations drawn from daily life."

The *Rev. E. F. M'Carthy* moved:—"That the proposed regulations for the better education of pupil-teachers be adopted, and that the school management committee be, and are hereby, authorised to make all the necessary arrangements for carrying them into practice."

Miss Kearick seconded the proposition.

The *Rev. E. F. M'Carthy* then moved:—"That the draft circular to teachers respecting moral instruction be approved, and that a copy be sent to the head-teacher of every department of the Board schools."

The *Chairman* seconded the motion.

Mr. Growing proposed as an amendment to include these words at the end of the last paragraph:—"And it shall not be an offence if teachers shall enforce these duties by Scriptural teaching and illustrations drawn from the Bible."

The *Rev. R. B. Burgess* seconded the amendment.—After considerable discussion the amendment was put, and lost by 9 votes to 4. The original resolution was then put, and carried.

ON THE STUDY OF CLASSICS AS AN INTELLECTUAL DISCIPLINE.

THE case against continuing the Classics in their present position in our higher education—in which they engross half, or even more than half, of the entire attention of the pupils—is properly a case of the comparison of cost and result.

The situation must be admitted to be peculiar and anomalous. Only a very few of those that study Latin and Greek ever read or write the languages; and those that really do make use of them will always have the opportunity of learning them. The question of the moment is as regards the large majority that have no occasion to use them, and no disposition to do so. To thrust them upon pupils of this character needs some very special justification.

We know, from abundant experience in other things, that a usage established as this has been would perpetuate itself by mere habit, and by the numerous vested interests that have grown up under it. The languages were first taught for the reasons that French and German are now taught; but they do not cease when the reasons have ceased. The discovery has been made that there is something in the mere act of learning them that cultivates or trains the faculties of the mind with a degree of efficiency beyond any other known study.

The purpose of my present paper is not to repeat all the particulars of the case, *pro* and *con*, but to dwell upon that one point that seems to be the chief stronghold of the supporters of the present system—this supposed discipline, exercise, or cultivation of the powers and faculties of the mind. I wish to consider minutely and closely the working of such discipline.

I must, however, be allowed to bring to mind what the argument must prove to be of value at the present stage of the controversy. We require to be convinced that the supposed discipline or training cannot be given (1) on a Modern Language by itself, (2) on one Classical Language and one Modern Language united; but that it requires nothing less than the two Classical Languages. In short, it is only by Latin and Greek combined that the human intellect can be thoroughly and yet economically cultivated.

It will be allowed that there must be a great deal that is common to an ancient and to a modern language—say Greek and German, Latin and French; especially if the modern language is learnt at home by grammar and dictionary. The argument resolves itself into the transcendent, ineffable superiority in the circumstances attending the study of a *second* ancient tongue. One of the two by itself leaves an enormous void, only to be filled up by the second.

The first point is, to look at the situation of learning any foreign language, and see what that does for the training of the mind in other respects. If, as I believe, there is no special efficacy in the work, nothing that may not equally well be done in other ways, then the whole argument collapses. There must be some potency in the

study of language generally, and that potency must appear at its highest pitch in the combination of Latin and Greek.

I think it is allowed that by far the largest part of the acquisition of Language is simple Memory; just as the largest part of Science is Reason. Now, by exercising Memory on any subject, you do not thereby strengthen it for any other subject; but, if anything, the contrary. If you have to learn five languages, or the details of a vast science like Zoology, you are not thereby assisted in remembering the minutiæ of a profession like Law or Medicine. You may have contracted habits of intellectual attention generally; but both the attention and the plasticity have been drawn upon to such an extent as to leave only a remainder for the additional studies.

The arts and refinements of language-teaching are all aimed at using and assisting memory. There are points here and there to exercise the reason; but the more effectually the memory is stirred with vocables and their meanings, the less need is there for any other faculty. What is it that makes the difficulty in understanding a passage in a foreign author? Simply, that you have not yet learnt the meanings of the words. Sometimes you can make up for the defect of knowledge by ingenuity in reasoning from the context, in the way that scholars deal with intrinsically obscure passages. But it is the aim of good teaching to avoid this situation, which is apt to be too much for the ordinary pupil. Yet it is this exceptional position—in reality the defect and the drawback of language-teaching—that has to support the enormous strain of the great discipline argument in Classics. I shall have to consider the situation at large presently. I am concerned here in pointing out the circumstance that memory is the chief faculty called into play in language, and the better it is plied the less need there is for any other faculty.

The learning of a foreign language may be said to consist in counting perhaps from ten to twenty thousand verbal associations—between names and names. If there is any acquirement that can be called memory, pure and simple, it is a language.

The enormous burden of detail that this implies is relieved at certain points by identities, similarities, or generalities; in other words, by the application of our Reasoning faculty. The tracing of root words obviously abbreviates the number of independent acts of memory; so does the resolution of compound words into roots with prefixes and suffixes. But the most highly generalized part of a language is its grammar. This is the really scientific part of the language; a small corner of reason in a vast domain of memory. People sometimes plead, for the omission of grammar from the teaching of a language; such people have evidently unbounded faith in the memory for detail, and not much liking for the technical rules that abridge the labour of memory by the exercise of the reason. And no doubt, when the verbal memory is in the ascendant, these grammatical generalities can be more and more dispensed with. On

the other hand, those that are comparatively weak in verbal memory and strong in the scientific faculty, readily avail themselves of the concentrated instruction that grammar furnishes, and thereby economise what happens to be their most slender endowment.

It cannot be said, however, that in the discipline of grammar there is anything at all peculiar. It is simply the understanding and carrying out of general rules; an operation repeated a hundred times over in the course of our education. It comes up in Arithmetic, by pre-eminence, the science of the million; it is repeated in every region where science casts its shadow. Moreover, there is no essential difference between one language and another; nothing to distinguish a dead language from a living: the rules may be different, but the exercise is the same.

If you really wish to improve the faculty of comprehending and applying generalities, you should take some subject where the exercise is not rare and incidental, but habitual and necessary. In language, the generalising process may be evaded by a good verbal memory; this is not possible in any regular science. It is not easy in Arithmetic, still less so in Geometry.

I now come to what, in language-teaching, is the main exercise that is reckoned on as discipline—namely, translating. This may have every variety of difficulty, from mere memory to high efforts of constructive ingenuity, or divination. It must be granted, however, that the language-teacher endeavours to spare the pupils these higher efforts, and makes the path as easy as the case will allow. Among the early lessons I may specify the committing to memory, in anticipation, a string of words in the vocabulary, with their meanings, then giving a passage where they are used; and if the meanings of the separate words have been securely committed, and if also the grammatical inflexions are known, the passage is readily construed. In this there is no very high order of faculty; it is what we may call a constructive effort of a simple kind. If the memory has taken a complete hold of the meanings of the several words, and of their inflexions, the passage is rendered without difficulty.

Another more usual situation is to give a passage without anticipating the words that occur in it. There is then the usual resource to the dictionary, or to some vocabulary of meanings. In an easy subject, where the words are used in their primary and obvious meanings, or in the case of there being a dictionary adapted to the author, it is simply an affair of looking up all the unknown words, and putting together their meanings into the connected sense of the passage. This, too, in ordinary circumstances, is an easy effort; it needs chiefly a little patience to get all the meanings out, and hold them together till the sense emerges. The teacher does not desire to interpose any special difficulty in the work; it is not his fault when the means are insufficient for the end. Exercising the faculties in any particular way is not deemed by him to be his proper business.

But as we very well know, the learner of a language, even with his dictionary by his side, often encounters intractable sentences. He gets the dictionary meanings of the words, but they do not fall in so as to yield sense. Plurality of meanings is one great stumbling block. The word "res" in the Latin dictionary has a frightful string of meanings. The pupil, we shall say, has to decipher the line "sunt lachrymæ rerum"; which of them is to be taken? Here is a most distracting operation undoubtedly; but then the strain depends upon withholding specific helps, which is not easy in the present day, when all the difficulties in the common classical writers are interpreted in books accessible to the pupils. In former times, the pupil was set to grapple with difficulties far above his strength; the simple reward of his trial was, that when the solution was given at last in the class, it took a firm hold of his memory; whereas, if the solution is given at once, it scarcely takes hold of the memory at all. This is, in the point of view of the teacher, the real disadvantage of commentators and cribs; a certain strain of mind is necessary to fix words in the memory, and the looking up in the dictionary, and the balancing of alternative meanings, constitute one form of the tension. The master, in Language, does not wish to put the pupils to any other strain besides what is needed for stamping on their minds the linguist elements, that is to say, the vocables and the grammar.

In translating from English into Latin and Greek, the operation is essentially the same; only, as the pupil does not of himself well know whether he is in the right track, he does not struggle with the difficulties to the same extent. The process is equally effectual, in the long run, for the great requisite of storing the memory. The pupil necessarily makes blunders; if, however, he has taken some pains with the work, the correction of his blunders will impress on his memory the proper phrases; and that is all the master cares for.

It is needless to say more upon the work of translating, whether from one side or from the other. The more we consider it, the more we see that the memory is the great thing in Language, and the understanding the small thing. The exercise of the understanding is only occasional, and is chiefly intended to aid the memory, or to supply its defects. If, as I have said, the memory is naturally feeble, the generalising and reasoning power will be so much more put upon stretch.

The attempt to set up a difference between ancient and modern languages, in regard to the training of the faculties, is the most nugatory of all. That the ancient languages are more inflected, and have in consequence a more elaborate syntax, means only that a little more time must be expended on the part of the Grammar dealing with inflexion. That a Greek verb has more inflexions than a Latin verb makes no difference in the faculty exercised; the greater labour at the commencement is made up by the greater ease in arriving at the meaning; the ambiguities are lessened and the struggle of interpretation diminishes.

The modern languages have still fewer inflections, but they have necessarily provided equivalents for inflexions. We merely transfer the attention from inflexions to auxiliaries. The mental operation is absolutely the same. In every language, there is a vast pressure on the memory; a small and varying demand upon the understanding. The act of translating involves that tentative and constructive process that I have exemplified; which is easy or difficult according to the relation of the passage to the acquirements of the pupil at that stage. Good teaching tries to make the difficulty as small as is compatible with the paramount object of impressing the memory.

The great disadvantage of the ancient languages as training, namely, that there is a limited number of books to be deciphered, and that all the difficulties are obviated by assiduous commentators and cribs, is not repeated in the modern languages; so that in point of training, these possess a certain clear superiority. But what I would next insist upon is, that our own language reproduces the exact situation that so much stress is laid upon. The advancements from stage to stage in our mother tongue implies the operation of the very same constructive faculty, the same divination of a complex meaning from simple elements. While we are extending our knowledge of the meanings of authors in English, we are always encountering new words and new meanings of old words; we have to be told these in the first instance, and we have to put together the separate meanings so as to divine the sense of a whole sentence. A boy of twelve is engaged in Bacon; we shall suppose he comes upon this sentence, "Reading makes a full man; writing an exact man; conversation a ready man." He knows all these words in some of their significations; but he is puzzled to know what "a full man" means, and what it can have to do with reading. In preparing the passage for the class, he turns up the dictionary for "full"; but it gives him a very uncertain sound. If he is a lad of forward parts, he may divine the bearing of the metaphor "full"; but the ordinary youth will have to wait the explanation of the master, there not being at hand any officious commentator of Bacon to remove the uncertainty. Now, I would ask, what is the difference between this situation in English and the situation of the same youth, set to prepare Horace's ode—"Integer vitæ, scelerisque purus"? He knows already perhaps that the word "integer" means "whole"; "vitæ" he knows; but what sense is he to make of the two—"whole," "life." If the adjective were in concord with the noun, "a whole life" would be sense; but "a whole man of life"—what can that mean? Keep him away from commentators and copious dictionaries, and he might struggle over the problem, just as he did over Bacon's "full man," with little or with much success. But wherein, I should like to know, is the essential difference of the two exercises?

I might go on to any length citing instances of the same nature; but the drift is as obvious upon one as upon a hundred. The pupil that has gone through a course of English reading has been, times

without number, in all the varying situations arising in the study of a foreign language, dead or living. Nay, more; every step in knowledge involves the situation of divining the unknown by help of the known, a process of trial and error repeated until a satisfactory result is attained. In fact, the exercise is at its best in acquiring the knowledge of things, as I shall now briefly illustrate.

The constructive or divining operation, shown in translating from one language to another, is one of the standing exercises of the human intelligence. We cannot follow a single sentence without calling it into play: sometimes the effort is easy and slight, sometimes it is arduous. We have in every case to conceive a total effect that shall correspond to the elements enunciated. "Rome was not built in a day," produces a composite or constructive impression, in which each word is allowed its full force. Our conception must be decisively different from what it would be if "was" were "is," if "in" were "for," if "a" were "the." To give the exact play to every vocable, and every inflection, and make a meaning that reconciles them all, is to understand a sentence in our own or any other language. In order to produce an equivalent sentence in a foreign tongue, we must know that a certain grouping of words properly interpreted would yield the same collective impression. In short we repeat for the new language the constructive judgment already made in our own.

There is thus, so far as I can see, no characteristic or unique faculty exercised in the mere act of acquiring a foreign language. It is the most ordinary and incessant of all mental exercises. Indeed, to pretend that this situation brings out a faculty that nothing else brings out, would lead to absurd consequences. The real position should be: there is a power, or set of powers, often wanted in the great emergencies of life; and the best beginning of their exercise is in something that is never wanted in real business, namely, reading and writing first Latin and then Greek. But the probability is, that a power so often called into exercise may be trained in many ways; the more valuable it is by the extent of its demand, the more chance has it of being cultivated.

If I were to name the discipline most fitted to be associated with language-teaching, and that the language-teacher should mainly concern himself with, it would be the discipline of estimating the efficiency of language for its ends. This is not regularly and systematically attended to either in our own language or in a foreign language. "Reading makes a full man; writing an exact man," and so on. What is the merit or the demerit of this form of expression compared with alternative forms. "We read in order to amass information; we practise writing or composing in order that our ideas may be made exact," and so forth. It is in our own language that this discipline can have the fullest swing, and produce its best fruits; but in the classical and other languages it might be continued and extended. Without doubt, if language-teachers

would always make the most of their opportunities in this way, we should not have to complain so much of the barrenness of all language study. The constructive intellect can be brought into play everywhere, the knowledge of good and bad in expression is a language study, and is quite enough of itself to occupy the attention of the teacher, and as much as he is ever likely to effect in addition to the bare elements of the language itself.

It would be easy to show that the deductive and the constructive operations which exhaust all that pertains to language, in addition to mere memory, are most thoroughly carried out in the various sciences; it is in scientific subjects that the lessons can be most consecutively arranged. But, apart from this, the doctrine that we can best prepare the mind for any given subject by exercising it in an alien subject is liable to great abuse. There is, as we admit, a small sprinkling of science in language; but the inference is not to be drawn that language is the best beginning of a scientific course; many things bar that conclusion. I would say rather, that a certain familiarity with scientific elements, as they appear in the methodical sciences, would be of the highest value in making the scientific part of language felt and understood. Instead of grammar being a logic in itself, you want logic to pave the way to grammar.

I will, in conclusion, quote a passage from a paper of mine, read before the Social Science Congress, on the incompatibility of the teaching of language in its proper character with the various advantages that have been tacked on to it :—

"Well, then, suppose the extreme case of a foreign language that is entirely and avowedly superseded as regards communication and interpretation of thoughts, but still furnishing so many valuable aids to mental improvement, that we keep it up for the sake of these. As we are not to hear, speak, or read the language, we do not need absolutely to know the meaning of every word: we may, perhaps, dispense with much of the technicality of its grammar. The vocables and the grammar would be kept up exactly so far as to serve the other purposes, and no farther. The teacher would have in view the secondary uses alone. Supposing the language related to our own by derivation of words and that this was what we put stress upon; then the derivation would always be uppermost in the teacher's thoughts. If it were to illustrate Universal Grammar and Philology, this would be brought out to the neglect of translation.

"I have made an imaginary supposition to prepare the way for the real case. The classical or language teacher is assumed to be fully conscious of the fact that the primary use of the languages is as good as defunct; and that he is continued in office because of certain clearly assigned secondary uses, but for which he would be suspended entirely. Some of the secondary uses present to his his mind, at all events one of those that are put forward in argument, is that a foreign language, and especially Latin, conduces to

good composition in our own language. And as we do compose in our own language, and never compose in Latin, the teacher is bound to think mainly of the English part of the task,—to see that the pupils succeed in the English translation, whether they succeed in the other or not. They may be left in a state of considerable ignorance of good Latin forms,—ignorance will never expose them; but any defects in their English expression will be sure to be disclosed. Again, it is said, that Universal Grammar or Philology is taught upon the basis of a foreign language. Is this object, in point of fact, present to the mind of every teacher, and brought forward, even to the sacrifice of the power of reading and writing, which by the supposition is never to be wanted? Further, the Latin Grammar is said to be a logical discipline. Is this, too, kept in view as a predominating end? Once more, it is declared that, through the classics, we attain the highest cultivation of Taste, by seeing models of unparalleled literary form. Be it so: is this habitually attended to in the teaching of these languages?

"I believe I am safe in saying that, whilst these various secondary advantages are put forward in the polemic as to the value of languages, the teaching practice is not in full consistency therewith. Even when in word the supporters of classics put forward the secondary uses, in deed they belie themselves. Excellence in teaching is held by them to consist, in the first instance, in the power of accurate interpretation, as if that obsolete use were still the use. If a teacher does this well, he is reckoned a good teacher, although he does little or nothing for the other ends, which in argument are treated as the reason of his existence. Indeed, this is the kind of teaching that is alone to be expected from the ordinary teacher; all the other ends are more difficult than simple word-teaching. Even when English composition, logic, and taste are taught in the most direct way, they are more difficult than the simple teaching of a foreign language for purposes of interpretation; but when tacked on as accessories to instruction in a language, they are still more troublesome to impart. A teacher of rare excellence may help his pupils in English style, in philology, in logic, and in taste; but the mass of teachers can do very little in any of those directions. They are never found fault with merely because their teaching does not rise to the height of the great arguments that justify their vocation; they would be found fault with if their pupils were supposed to have made little way in that first function of language which is never to be called into exercise.

"I do not rest satisfied with quoting the palpable inconsistency between the practice of the teacher and the polemic of the defender of languages. I believe further, that it is not expedient to carry on so many different acquisitions together. If you want to teach thorough English, you need to arrange a course of English, allot a definite time to it, and follow it with undivided attention during that time. If you wish to teach Philology, provide a systematic

scheme, or text-book of Philology, and bring together all the most select illustrations from languages generally. So for Logic and for Taste: these subjects are far too serious to be imparted in passing allusions while the pupil is engaged in struggling with linguistic difficulties. They need a place in the programme to themselves; and, when so provided for, the small dropping contributions of the language-teacher may easily be dispensed with.

"The argument for languages may, no doubt, take a bolder flight, and maintain that the teacher does not need to turn aside from his plain path to secure these secondary ends—now the only valuable ends. The contention may be, that in the close and rigorous attention to mere interpretation, just as if interpretation were still the living use, these other purposes are inevitably secured—good English, universal grammar, logic, taste, &c. I think, however, that this is too far from the fact to be very confidently maintained. Of course were it correct, the teacher should never have departed from it, as the best teachers continually do, and glory in doing.

"On the face of the thing, it must seem an unworkable position to surrender the value of a language, as a language, and keep it up for something else. The teaching must always be guided by the original, although defunct, use; this is the natural, the easy course to follow; for the mass of teachers at all times it is the broad way. Whatever the necessities of argument may drive a man to say, yet in his teaching he cannot help postulating to himself, as an indispensable fiction, that his pupils are some day or other to hear, to read, to speak, or to write the language."—*Prof. H. Ibis.*

"THE SCIENCE OF CONDUCT: ITS PLACE IN EDUCATION."*

There seems no end to the number of subjects we hear we are to teach. We have not decided whether to teach Classics, or Mathematics, the Natural Sciences, Art, Grammar, History, Music, and now we hear of a new science, that of Conduct. Many of us who take sides in the advocacy of the rival claims of these subjects, do not wish to see all our schools alike, or all our teachers giving equal prominence to the same subjects; but rather wish Science to carry the palm in some schools, Classics to form the principal study in others, and so on. In speaking, lately, with a gentleman from the continent, who has been inspecting and reporting on English schools, I asked him what advice his inspection had disposed him to give to English educators. He replied, "We have in Germany four types of schools only. You have almost every possible grade between the two extremes, and schools of the same grade with different methods. With us, individuality is neglected; with you, it has full play. If I presume to advise, I should say, you may secure efficiency

* A Paper read before the College of Preceptors, London, by Dr. Wormell—Professor Cyrus Robertson presiding.

and at the same time keep your variety; don't imitate our dull uniformity."

I felt that he had pointed out a feature peculiar to English education, and one which we ought to preserve, as agreeing most thoroughly with our national temperament, and the liberty accorded by our other national institutions.

But, if I make out my case to-night, I think I shall plead the cause of a claimant for the best attention of teachers of all schools, of all grades,—a kind of knowledge which all should have, and which every teacher should know how to impart. It concerns all education, for it concerns all men and women.

Many are the definitions of education and general descriptions of the work of the educator, but this we may fairly state, that the end which all promoters of education wish it to secure is directly the good of society at large.

The means by which this end has been sought have varied greatly. We are not yet agreed as to the methods to be pursued in education. We are still debating as to the kind of discipline to be enforced, the penalties to be inflicted, and the allurements to be offered. While few will doubt that education seeks to secure the common good, men have been and are far from agreed as to what that common good is. Such disagreement must lead to a doubt as to the conduct that ought to be encouraged, and consequently to doubt as to the character and habits which will dispose to it. It behoves teachers, above all men, to labour to remove this disagreement. Good must come from an attempt to bring order and definiteness into their thoughts and teaching on this subject.

Although it is some good result to see the ready writer, the clever draftsman, the quick and correct arithmetician, the skilful seamstress, the clever cook, and the well-informed mind, the end before the educator is not simply to secure these—for they may accompany a miserable and wasted life—it is to train those committed to his care, so that, if they live to rise up as members of a coming generation, they may be prepared so to act their part, that their course shall be peaceful to themselves and useful to others. Now, I wish to show that there is a science, which will be a most powerful means in the hands of a good and earnest teacher, to equip the young student for active life, and arm him against temptation. It is a science that deals with the principles that regulate the movings and workings of society. Tangled and confused as these movements seem to be to a cursory observer, a firm grasp of some of the elementary principles that determine them throws light and order into what otherwise appears darkness and confusion.

That I may not seem, however, to claim too much for the science whose advocate I am, I may make my notion of its purpose clear by an oft-used illustration.

Every one knows that a ship is provided, before it leaves port, with charts, and also with numerous instruments to assist the captain and crew to reach their destination in safety.

A voyage must be very short where it is not necessary that a ship's course should be frequently altered to avoid rocks, sands, and other obstructions, all of which are marked on the chart. The chart of itself will not make the ship's course safe. It would be of small use if the captain were incapable of readily interpreting the marks traced upon it, and of profiting by the indications thereby obtained for steering his course.

Both the captain and his officers must know how to use their charts and instruments. In addition to this knowledge, they must possess willingness and ability to act in all the emergencies likely to await them from storms, fires, collisions, and other perils of the sea, and must be vigilant, sober, courageous, and indefatigable, as well to keep out of trouble as to get out of difficulties and dangers when they are unavoidable.

Now life has often been spoken of as a voyage—a voyage from birth to death—a voyage beset with dangers, fears, anxieties, sorrows, and suffering; but also interspersed with the pleasures of sympathy and affection, of hope, of exercise, and study, and of enjoyments secured by prudence and effort. Let us continue the figure, and ask what kind of a thing a chart of industrial life would be and what sort of instruction would be required for its use. The science of Conduct is the chart of industrial life.

In studying the laws and regulations which it will be his duty to obey, the thoughtful mariner sees that the purpose of all these laws and regulations is to make navigation as effective as possible for all who frequent the deep—not for him only, nor for a few, but for all. And where each navigator is careful to understand and obey the rules prescribed for the good of all, each in reality enjoys as much advantage and suffers as little loss and hardship as can reasonably be expected in the profession to which he devotes himself.

In like manner, the science of Conduct, the chart of industrial life prescribes the rules and regulations which it can be proved conduce to the general good—not to the good of one or a few. Nevertheless, not only every society as a whole, but also each individual in it, will prosper in proportion as these rules are generally understood and obeyed.

With the best of charts and the clearest of instructions, no captain must fancy that his own unaided qualifications suffice for his safe guidance in all circumstances and situations. He is at times dependent, for his safety or extrication from the perils of storm or fire upon the assistance of others, who in their turn may have to rely upon him. In pilot waters, also, the most experienced navigators always seek the aid of pilots qualified to guide others by their special acquaintance with the intricacies of the channels, and with the lights, buoys, landmarks, and soundings of the narrow seas in which they ply. In like manner, the youth about to start to navigate the waters of life, will learn from the instructions associated with his chart that the co-operation of others is indispensable for

his successful progress, and that he must strive to deserve so as to secure that co-operation whenever it is needed.

If, as is usual in treating of other sciences, we are called on to define our science, we may say that it treats of the methods for developing and perfecting the dispositions and attainments of man, as a means of securing conduct favourable to the well-being of each and all.

But, some may say, we have heard of the Art of Good Living. Are you not speaking of an art, and not a science? Does not an art teach us to *do*, while a science teaches us to *know*? Is it not an art that turns knowledge to account? Now, order and consciousness in the principles applied characterise a science, but want of connexion and consecutiveness among the precepts, and unconsciousness in their application, are involved in art. Dr. Whewell distinguishes between them thus:—"The principles which art involves, science alone evolves. The truths on which the success of art depends, lurk in the artist's mind in an undeveloped state; guiding his hand, stimulating his invention, balancing his judgment, but not appearing in the form of enunciated propositions." Accepting this distinction, I hope soon to make it clear to you that it is a science, and not an art, that we have in mind.

Look for a moment, at the composition of a perfect science, such as Pure Geometry. From the pictures we see we construct a world of things to fulfil a certain code of rules, called axioms or definitions. The system of reasoning on this code of rules is, and has been for twenty centuries, at once the inspiration and aspiration of scientific thought, its encouragement and guide. Encouragement, because the knowledge it contained was really known and could be relied on, and that, moreover, was growing in extent and application. The guide for the aim of every scientific student of every subject was to bring his knowledge of that subject into a form as perfect as that which Geometry had attained. "Far up on the great mountain of Truth, which all the sciences hope to scale, the foremost of the sacred sisterhood was seen beckoning the rest to follow her."* I claim a place on this mountain for the science of Conduct. She has suffered many vicissitudes, and has often ascended a short distance only to fall to the bottom. By keeping the foremost of the sisters in sight, and following in her course, she too may ascend so high as to be likewise the encouragement and guide of younger and weaker members of the sacred sisterhood.

But has she a firm foothold to start from. A little thought will convince us that she has. The cultivators of the earth are all desirous of making it yield the largest quantities of material for food and clothing. There have been men who, like Seneca, have said, "The wise man lives according to nature. Instead of attempting to add to the physical comforts of his species, he regrets that his lot was not cast in that golden age when the human race had no

* Professor W. K. Clifford.

protection against the cold but a cavern." But such men may be classed with those whose words and conduct are not in harmony. Few are the men, even amongst the most ignorant and apathetic, who decline to make use of any of the modern resources placed within their reach; such, for example, as those that have originated in the laboratories of the chemist or the engineer. The only reason why men did not travel as rapidly formerly as now, did not communicate with each other, and transmit information to a distance, did not utilise the powers of heat, light, electricity, was—that they did not know how.

I will proceed to sketch as briefly as possible what I consider to be the prominent problems of the Science of Conduct.

Let me remark at the outset, that we have in mind the training of the young for the business of life. The weaknesses, faults, and failings, exhibited by children at school, are generally typical of what may be observed in men and women who have not in childhood acquired the power of guarding against misconduct and error. In checking the faults of the child, we must endeavour to fortify him against more serious errors of the same kind in after life. We must not, therefore, base our correction on principles which may be afterwards rejected as fallacious. Again, we must as teachers, respect the confidences that are placed in us by those who commit their children to our care. On both these grounds, therefore, the principles on which our science is to be based must be such as *all* observant and thoughtful men must necessarily accept. It will be no new thing in science to reason with such restrictions as these, for, in the science of pure Geometry, we for certain reasons limit the instruments that shall be used in making the necessary constructions.

Axiomatic Principles.—1. We could not live at all without food, clothing, fuel, and shelter; nor with much enjoyment, unless provided with many other things essential for health and recreation.

2. Life, as much as possible, free from bodily suffering, trouble, self-reproach, the dislike or contempt of our fellows, alarm and anxiety, is wished for in common by us all.

3. The comfortable existence of as nearly all as possible, the admixture of the least possible suffering in the lot of life, is the end towards which the conduct of each ought to be directed.

Work and Industry.—Let us in the first place direct attention to the most obvious essentials of comfortable existence—food, clothing, fuel, shelter, &c.—say, the material essentials with which we are surrounded. We have a large store of these essentials—larger than existed in former times but evidently not large enough adequately to supply the wants of all. If it were all suddenly destroyed, thousands of years must elapse before it could be replaced. The means of subsistence being taken away, the human race would perish, excepting that small remnant for whose support the spontaneous products of the earth might possibly suffice.

The history of our own country proves to us that for many years our store of the means of subsistence has been steadily increasing; and as this store has increased, so also have the people increased in number. We are daily consuming the store which has been accumulated around us; and if we did nothing but consume, our store would gradually disappear, and we should perish. Later extinction would follow upon the gradual consumption of our store without its replacement, as certainly as early extinction would follow upon its immediate destruction.

But what are men doing while the consumption of food and fuel, the wearing out of clothes and furniture, and the decay of houses, are in progress?

Even at this stage we can show that they are doing many things, the main purpose of which is to replace or to more than replace, what is consumed, and to preserve from decay that which with care may contribute to the comfort of the present and future generations.

When we wish to speak of all these doings of men without specifying what each is doing we say, in one word, they "work." And if we were to ask why they work, the meaning of the answer would be,—*whatever form of expression might be used*,—to replace, or to more than replace, what is consumed.

A total suspension of work for a great length of time would be quickly followed by famine, disease, and death. Each individual who shirks some share in this work, or who works less effectively than he might, either throws upon others the labour which he shirks, or encroaches by his consumption upon the store in reserve for future subsistence.

All who have life consume; but all cannot work. The very young, the old, the infirm, either cannot work at all, or can do but little. They must be worked for. And when we reckon up the number who cannot work, we need not to be told what a nuisance to the community those must be who will not work, or who struggle to avoid their share of work.

The urgent call for work has been so keenly felt that a name implying approbation and esteem has been given to those who work zealously and cheerfully. We call them *industrious*; while those who work reluctantly are called *idle* or *lazy*.

It follows inevitably that, for the common good, all should be persuaded that it would be a disgrace to omit any effort by which they may take rank among the capable, who not only provide for their own maintenance, but contribute towards that of the helpless.

Gratitude and affection are due to parents—and children should be careful that they do not waste what is provided for them through the work of others.—These may easily be shown to be necessary consequences of the considerations we have briefly sketched, connected with reflections on the helplessness of childhood, and the watchfulness and care that parents have to extend to children in early years to preserve them from harm. A careless use of the material essen-

tials of well-being supplied by parents to their children, hinders the accumulation of these essentials; and to cause grief, trouble, anxiety, loss of rest to parents is to diminish their power of work; while every effort to make home cheerful and happy, tends to preserve health and facilitate work.

(To be continued.)

DEPARTMENTAL NOTICES.

Agricultural Classes.

No. 1402.

EDUCATIONAL DEPARTMENT.

Bombay Castle, 19th November 1879.

Letter from the Director of Public Instruction, No. 3461, dated 31st October 1879—Forwarding, with reference to Government Resolution No. 928, dated 31st July last, certain statements showing how the charges on account of the Agricultural Classes in the several collectorates can be distributed.

RESOLUTION.—The Director of Public Instruction's report shows that Agricultural Classes have already been started at the High Schools in the following seven town:—

Broach.	Násik.
Nariád.	Dhulia.
Surat.	Ahmednagar.
Karachi.	

The total number of pupils already reported to have joined these classes is 207. Arrangements have also been made for opening a class at the High School of Belgaum immediately, but the number of pupils who will join it has not yet been reported.

2. The initial charges in respect of these eight classes to be defrayed by Government will amount to Rs. 1,174, which is Rs. 1,826 less than was anticipated in His Excellency the Governor's minute of 29th October 1878 for only six classes; and the annual charges payable by Government for the eight classes will amount to Rs. 6,840 which is precisely the same sum which was estimated to be the probable cost of six classes.

3. These results are very satisfactory, as they prove that the proposals of Government for establishing Agricultural Classes supply a want which is much felt, and that the Municipalities and the public generally, including the Agricultural Society of Nariád, are desirous of co-operating with Government in securing their success. Mr. Dayaram Jethmal and Mr. Bomanji Perozeshah should both be thanked for their very liberal offers of assistance for the Karachi Class, and much credit is due to the Collectors and to the Educational Inspectors of the eight districts in which classes have been started for the interest evinced by them in the matter.

4. The payment of the initial charges amounting to Rs. 1,174, and of the annual charges at the rate of Rs. 6,840 per annum, both for the current year and for the year 1880-81, is sanctioned.

(Signed) J. R. NAYLOR,
Acting Chief Secretary to Government.

To the DIRECTOR of PUBLIC INSTRUCTION (with a request that the necessary communication be made to MESSRS. DATARAM JETHMAL and BOMANJI PESHOTANJI), the COMMISSIONER in SIND, the ACCOUNTANT GENERAL, BOMBAY (with copy of the statements), the COLLECTOR of BROACH, the COLLECTOR of KAIRA, the COLLECTOR of SURAT, the COLLECTOR of KARACHI, the COLLECTOR of NA'SIK, the COLLECTOR of KHA'NDESH, the COLLECTOR of AHMEDNAGAR, the COLLECTOR of BELGAUM, the FINANCIAL DEPARTMENT of the SECRETARIAT.

K. M. CHATFIELD,
Director of Public Instruction.

Poona, Office of the Director of Public Instruction,
28th November 1879.

APPOINTMENTS AND CHANGES.

MONTHLY LIST OF APPOINTMENTS AND CHANGES IN THE EDUCATIONAL DEPARTMENT FROM THE 16TH OF OCTOBER TO THE 15TH OF NOVEMBER 1879.

16*th October* 1879.—One year's leave without pay, is granted to Mr. V. S. Vaidya, Fifth Assistant Master, Bhownagar High School.

16*th October* 1879.—Three months' privilege leave, is granted to Mr. Sadikali Mirza, Sindhi Translator.

16*th October* 1879.—Mr. Ali Mahomed Akhund, B.A., is appointed to act as Sindhi Translator during the absence of Sadikali Mirza on privilege leave.

16*th October* 1879.—An extension of one day's leave, without pay, is granted to Mr. S. S. Pathak, Seventh Assistant Master, Nasick High School.

16*th October* 1879.—Mr. V. K. Chiplunkar, B.A., Second Assistant Master, Ratnagiri High School, is permitted to resign his appointment, from the 14th October 1879.

18*th October* 1879.—Mr. Amarji, is appointed *sub pro tem.* Sanskrit Teacher in the Junagadh High School, *vice* Mr. Haridat, transferred in the Sanskrit School, Junagad.

21*st October* 1879.—Two days' privilege leave is granted to Mr. Umedali Karim, Second Assistant Master, Shikar High School.

22*nd October* 1879.—Twenty-five days' privilege leave (instead of one month as mentioned in this office order dated 8th instant),

gitized with financial assistance from
Government of Maharashtra
on 20 February, 2016

is granted to Mr. V. G. Indapurkar, Second Assistant Master, Dharwar High School.

29th *October* 1879.—Mr. M. Narayanrao is appointed Agricultural Teacher in the Belgaum High School.

3rd *November* 1879.—Mr. Vasanmal Jamnadas, is appointed sub *pro tem.* Head Master, Sukkur Anglo-Vernacular School, *vice* Mr. Chintamanrao Avatrai, on leave.

5th *November* 1879.—Mr. Manilal Govindram Desai, First Assistant Bhownagar High School, is permitted to resign his appointment from the 11th October 1879.

7th *November* 1879.—Six months' leave, on private affairs, is granted to Mr. Anant Vishwanath Shastri, Sanskrit Teacher, Belgaum High School.

8th *November* 1879.—Leave of absence, without pay, from 13th October to 4th November, is granted to Mr. S. K. Kirloskar, B.A., First Assistant Master, Satara High School.

8th *November* 1879.—Mr. Manjmal Valiram acted as Third Assistant Master, Hydrabad High School, from 16th to 27th October 1879.

8th *November* 1879.—Mr. Alibux Wallad Shaba, is appointed Persian Teacher in the Shikarpur High School.

10th *November* 1879.—The unexpired portion (three months and three days) of the year's furlough granted to Mr. K. M. Raghavendra Rao, First Assistant Karwar English School, is cancelled.

10th *November* 1879.—A month's additional sick leave is granted to Mr. N. B. Wadké, Drawing Master, Training College, Dharwar.

10th *November* 1879.—Two months' leave, without pay, is granted to Mr. Khimji Hansraj, Seventh Assistant Master, Nawanagar High School (commencing from 1st instant).

11th *November* 1879.—Forty days, privilege leave is granted to Mr. J. B. Modak, First Assistant Master, Ratnagiri High School.

11th *November* 1879.—Mr. S. B. Sulé, is appointed, until further orders, sub *pro tem.* Second Assistant Master, Ratnagiri High School, *vice* Mr. Chiplunkar, resigned.

11th *November* 1879.—Mr H. G. Godbolé, is appointed, until further orders, sub *pro. tem.* Third Assistant Master, Ratnagiri High School, *vice* Mr. Sulé, promoted.

By order of the Director of Public Instruction.

JNO. BOCARRO,
Head Assistant

Poona, Office of the Director of Public Instruction,
19th *November* 1879.